From: Commandant of the Marine Corps  
To: Distribution List  
Subj: UH-1Y TRAINING AND READINESS MANUAL  
Ref: (a) NAVMC 3500.14E  
Encl: (1) UH-1Y T&R Manual  

1. Purpose. Per the reference, the UH-1Y Training and Readiness (T&R) Manual, contained in enclosure (1) provides revised standards, regulations, and policy regarding the training of UH-1Y aircrew.

2. Cancellation. NAVMC 3500.20C.

3. Scope. Highlights of major changes are:
   a. Chapter 1
      (1) The definition of critical military occupational specialty (MOS) has been revised to add that MOS shortages shall be reported by the unit via the Defense Readiness Reporting System.
      (2) The tactical and reserve squadron critical MOS table has been revised to allow only primary or billet MOSs that appear on a unit table of organization.
   b. Chapter 2
      (1) Unguided rocket allocations have been redistributed from the Mission Phase to the Core Phase to ensure unguided rocket delivery for proficiency for pilots prior to training to complex mission sets such as close air support.
      (2) The Forward Air Controller Airborne syllabus adopted a building block approach with more simulator integration.
      (3) Field carrier landing practice events have been moved from the Core Phase to the Core Plus Phase.
      (4) Flight leadership events shall include at least one event performed with an instructor in the same aircraft as the pilot being evaluated.

4. Information. Commanding General (CG), Training and Education Command (TECOM) will update the UH-1Y T&R Manual as necessary to provide current and relevant training standards to commanders. All questions pertaining to this manual should be directed to: CG, TECOM, Policy and Standards Division, 1019 Elliot Road, Quantico, Virginia 22134.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.
5. **Command.** This Manual is applicable to the Marine Corps Total Force.

6. **Certification.** Reviewed and approved this date.

\[ Signature \]

K. M. IIAMS
Commanding General
Training and Education Command
By direction

**DISTRIBUTION: PCN 10033195600**
CHAPTER 1

UH-1Y

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CHAPTER 1

UH-1Y

1.0 TRAINING AND READINESS REQUIREMENTS. The goal of Marine Aviation is to attain and maintain combat readiness to support Expeditionary Maneuver Warfare while conserving resources. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned METs. These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training Events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

1.1 MISSION

1.1.1 Tactical and Reserve Squadron. Support the MAGTF Commander by providing offensive air support, utility support, armed escort and airborne supporting arms coordination, day or night under all weather conditions during expeditionary, joint or combined operations.

1.1.2 Fleet Replacement Squadron. Conduct Core Introduction training for pilots and aircrew in the UH-1Y, pilots in the AH-1Z, and to provide technical training for aviation maintenance personnel.

1.2 TABLE OF ORGANIZATION (T/O). Refer to Table of Organization managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for HMLA squadrons (UH-1Y specific). As of this publication date, HMLA (UH-1Y specific) squadrons are authorized:

1.2.1 HMLA UH-1Y Tactical and Reserve Squadrons

<table>
<thead>
<tr>
<th>HMLA UH-1Y TABLE OF ORGANIZATION T/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Aircraft</td>
</tr>
<tr>
<td>Pilots</td>
</tr>
<tr>
<td>Crew Chiefs</td>
</tr>
<tr>
<td>Aerial Gunner / Observer</td>
</tr>
</tbody>
</table>

1.2.2 HMLA UH-1Y Tactical and Reserve Squadron Critical MOSs

<table>
<thead>
<tr>
<th>UH-1Y TACTICAL AND RESERVE SQUADRON CRITICAL MOSs</th>
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</thead>
<tbody>
<tr>
<td>MOS Description</td>
</tr>
<tr>
<td>Pilot</td>
</tr>
<tr>
<td>Crew Chief</td>
</tr>
<tr>
<td>Aircraft Maintenance Chief</td>
</tr>
<tr>
<td>Avionics Tech</td>
</tr>
<tr>
<td>Airframe Mechanic</td>
</tr>
<tr>
<td>Ordnance Technician</td>
</tr>
<tr>
<td>Helicopter Mechanic</td>
</tr>
<tr>
<td>Ordnance Chief</td>
</tr>
</tbody>
</table>

Critical MOS – Those specialties that directly affect the unit’s ability to undertake its mission and appear as either Primary or Billet MOS on a unit T/O. Definition per MCO 3000.13. MOS shortage shall be reported by the unit/squadron via DRRS-MC. MOS shortages shall be reported by the squadron (12 Aircraft) only via DRRS-MC (See MET Worksheets Appendix A).

Note: Critical MOSs for Section Leader, Division Leader, Flight Leader, and Air Mission Commander are reported in DRRS-MC via the CMMR paragraph under Combat Leadership (Para 1.7).

<table>
<thead>
<tr>
<th>RULE</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Strength</td>
<td>&gt;90%</td>
<td>80-89%</td>
<td>70-79%</td>
<td>&lt;70%</td>
</tr>
<tr>
<td>Critical MOS</td>
<td>&gt;85%</td>
<td>75-84%</td>
<td>65-74%</td>
<td>&lt;65%</td>
</tr>
</tbody>
</table>
1.3 MISSION ESSENTIAL TASK LIST (METL). The METL is comprised of specified capabilities-based Mission Essential Tasks (METs) which a unit is designed to execute. METs are drawn from the Marine Corps Task List (MCTL), are standardized by type unit, and defined as Core or Core Plus METs. Core METs are those tasks that a unit is expected to execute at all times, and are the only METs used in reporting the Training Level (T-Level) for the Core Mission (C-Level) in the Defense Readiness Reporting System–Marine Corps (DRRS-MC). Core Plus METs identify additional capabilities to support missions or plans which are limited in scope, and/or theater specific. Core Plus METs may be included in Readiness Reporting when contained within an Assigned Mission METL. An Assigned Mission METL normally consists of selected METs (drawn from Core and Core Plus METs) necessary to conduct the assigned mission. MCO 3000.13 provides additional information on readiness reporting.

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>MCT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCT 1.3.4.1</td>
<td>CAT</td>
<td>Conduct Combat Assault Transport</td>
</tr>
<tr>
<td>MCT 3.2.3.1.1</td>
<td>CAS</td>
<td>Conduct Close Air Support</td>
</tr>
<tr>
<td>MCT 3.2.3.1.2.3</td>
<td>SCAR</td>
<td>Conduct Strike Coordination and Reconnaissance</td>
</tr>
<tr>
<td>MCT 3.2.5.4</td>
<td>FAC(A)</td>
<td>Conduct Forward Air Control (Airborne)</td>
</tr>
<tr>
<td>MCT 6.2.1.1</td>
<td>TRAP</td>
<td>Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)</td>
</tr>
<tr>
<td>MCT 6.1.1.11</td>
<td>ESC</td>
<td>Conduct Aerial Escort</td>
</tr>
<tr>
<td>MCT 6.2.2</td>
<td>AE</td>
<td>Conduct Air Evacuation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>MCT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCT 1.3.3.3.1</td>
<td>SEA</td>
<td>Conduct Aviation Operations From Expeditionary Sea-Based Sites</td>
</tr>
<tr>
<td>MCT 1.3.4.1.1</td>
<td>RIE</td>
<td>Conduct Airborne Rapid Insertion/Extraction</td>
</tr>
<tr>
<td>MCT 4.3.4</td>
<td>AD+</td>
<td>Conduct Air Delivery</td>
</tr>
<tr>
<td>MCT 5.3.2.7.3</td>
<td>TAC(A)</td>
<td>Conduct Tactical Air Coordination (Airborne) Operations</td>
</tr>
<tr>
<td>MCT 5.3.2.7.4</td>
<td>AC2</td>
<td>Provide an Airborne Command and Control platform for Command Elements</td>
</tr>
</tbody>
</table>
1.4 MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION. As Aviation Ground units provide universal impact across all six functions of Marine Aviation, this table is optional for the Aviation Ground community.

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>SIX FUNCTIONS OF MARINE AVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>OAS</td>
</tr>
<tr>
<td>MCT 1.3.4.1</td>
<td>CAT</td>
<td>X</td>
</tr>
<tr>
<td>MCT 3.2.3.1.1</td>
<td>CAS</td>
<td>X</td>
</tr>
<tr>
<td>MCT 3.2.3.1.2.3</td>
<td>SCAR</td>
<td>X</td>
</tr>
<tr>
<td>MCT 3.2.5.4</td>
<td>FAC(A)</td>
<td>X</td>
</tr>
<tr>
<td>MCT 6.2.1.1</td>
<td>TRAP</td>
<td>X</td>
</tr>
<tr>
<td>MCT 6.1.1.11</td>
<td>ESC</td>
<td>X</td>
</tr>
<tr>
<td>MCT 6.2.2</td>
<td>AE</td>
<td></td>
</tr>
</tbody>
</table>

1.5 MET TO CORE/MISSION/CORE PLUS SKILL MATRIX. Depicts the relationship between a MET and each Core/Mission/Core Plus/Mission Plus skill associated with the MET for readiness reporting and resource allocation purposes. There shall be a one-to-one relationship between the MET and a corresponding Mission Skill.

1.6 MISSION ESSENTIAL TASK (MET) OUTPUT STANDARDS. The following MET output standards are the required level of performance a HMLA (UH-1Y) squadron/detachment must be capable of sustaining during contingency operations by MET to be considered MET-ready.

1.6.1 Output standards will be demonstrated through the incorporation of unit training Events.

1.6.2 A core capable HMLA (UH-1Y) squadron/detachment is able to sustain the number of sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on 1.5 hour average sortie duration. It assumes >70% Mission Capable (MC) aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET and >90% T/O aircrew on hand. If unit MC aircraft is <70% or T/O aircrew <90%, core capability will be degraded by a like percentage.
### HMLA UH-1Y

#### MISSION ESSENTIAL TASK (MET) OUTPUT STANDARDS

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>MAXIMUM MCT SORTIES PER MET</th>
<th>MAXIMUM DAILY SORTIES**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Squadron</td>
<td>Squadron(-)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 A/C</td>
<td>8 A/C</td>
</tr>
<tr>
<td>MCT 1.3.4.1</td>
<td>CAT</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 3.2.3.1.1</td>
<td>CAS</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 3.2.3.1.2.3</td>
<td>SCAR</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 3.2.5.4</td>
<td>FAC(A)*</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>MCT 6.2.1.1</td>
<td>TRAP</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 6.1.1.11</td>
<td>ESC</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 6.2.2</td>
<td>AE</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 1.3.3.3.1</td>
<td>SEA</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 1.3.4.1.1</td>
<td>RIE</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>MCT 4.3.4</td>
<td>AD+</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>MCT 5.3.2.7.3</td>
<td>TAC(A)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MCT 5.3.2.7.4</td>
<td>AC2</td>
<td>16</td>
<td>12</td>
</tr>
</tbody>
</table>

* FAC(A) sorties may be sourced by both UH and AH aircrew. The numbers shown are HMLA Squadron/Squadron(-)/Detachment totals.

** A 12/8/4/3 plane Mission Capable HMLA(UH-1Y) Squadron/Squadron(-)/Detachment is able to execute 16/12/4/4 total overall sorties on a daily (24 hour period) basis during contingency/combat operations.
1.7 CORE MODEL MINIMUM REQUIREMENTS (CMMR) / ADVANCED AND BASELINE TRAINING STANDARDS FOR READINESS REPORTING (DRRS-MC). The paragraphs and tables below delineate the minimum crew qualifications, designations, and/or training for the Advanced and Baseline Training Standards.

1.7.1 CMMR / Advanced Training Standard: The minimum crew qualifications, designations, and/or training required to execute the MET output standards of paragraph 1.6. Units can be expected to perform a critical role in a mission or OPLAN and normally requires external MAGTF support.

1.7.2 Baseline Training Standard: The level of readiness expected from a unit sustained through CORE training at home station. Normally equates to approximately 70% of CMMR.

1.7.3 In the matrix below the first number in the “Crews Trained” columns reflect the CMMR or Advanced Training Standard, the numbers in parentheses indicate the Baseline Training Standard.

Note: Combat Leadership is depicted as only one value (CMMR).

<table>
<thead>
<tr>
<th>SKILL</th>
<th>PILOT</th>
<th>COPILOT</th>
<th>CC</th>
<th>AO</th>
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<tbody>
<tr>
<td></td>
<td>UHC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAT</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>CAS</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>SCAR</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>FAC(A)**</td>
<td>MSP, FAC(A)</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>TRAP</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>ESC</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
<tr>
<td>AE</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
</tr>
</tbody>
</table>

* AG Qualified in one or more weapons systems, or paired with NSI CC if Under Training (UT).
** FAC(A) training requirements apply to HMLA squadron, not individual aircraft models (may be filled by UH or AH crew).

**Designation**

<table>
<thead>
<tr>
<th>DESIGNATION</th>
<th>Squadron</th>
<th>Squadron(-)</th>
<th>Detachment</th>
<th>Detachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 A/C</td>
<td>8 A/C</td>
<td>4 A/C</td>
<td>3 A/C</td>
<td></td>
</tr>
<tr>
<td>Utility Helicopter Commander (UHC)</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Section Leader (SL)</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Division Leader (DL)**</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Flight Leader (FL)***</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Air Mission Commander (AMC)***</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*** Division Leader, Flight Leader, and Air Mission Commander Leadership requirements apply to HMLA squadron, not individual aircraft models (may be filled by UH or AH pilot). Detachment division leader requirements are per TMS.

Note: Crew definitions for training are identified within each T&R event.
1.8 **CORE MODEL TRAINING STANDARD (CMTS).** The CMTS is the optimum training standard reflecting the number of crews or aircrews trained to CSP/MSP, per crew position to execute each Stage of instruction or flight as detailed below. The CMTS Matrix depicts the training goal and optimum depth of training desired for each unit or squadron as they develop their unit or squadron training plan. It is not utilized for readiness reporting (DRRS-MC) purposes. At a minimum, the CMTS shall enable a unit or squadron to form CMMR crews for Mission Skills (and Mission Plus Skills when required).

1.8.1 **HMLA (UH-1Y) Tactical and Reserve Squadron**

<table>
<thead>
<tr>
<th>HMLA UH-1Y</th>
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<tbody>
<tr>
<td><strong>CORE MODEL TRAINING STANDARD (CMTS)</strong></td>
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<td></td>
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<tr>
<td>TERF</td>
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<tr>
<td>TCT</td>
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<td>REC</td>
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<tr>
<td>CAT</td>
</tr>
<tr>
<td>FCLP</td>
</tr>
<tr>
<td>SWD</td>
</tr>
<tr>
<td>ANSQ</td>
</tr>
<tr>
<td>FAM</td>
</tr>
<tr>
<td>EXP</td>
</tr>
</tbody>
</table>

| **CORE PLUS SKILLS** | **CORE PLUS SKILLS (4000-4999 Phase)** |
| | **Squadron 12 Aircraft** | **Squadron(-8 Aircraft** | **Detachment 4 Aircraft** | **Detachment 3 Aircraft** |
| | P | CC | AO | P | CC | AO | P | CC | AO | P | CC | AO |
| ESC | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| CAT | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| AD | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| EW | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| CAS | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| SCAR | 3 | 11 | - | 2 | 7 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| DACM | 4 | 8 | - | 2 | 4 | - | - | 1 | 4 | - | - | 1 | 3 | - |
| CBFRN | 2 | 22 | - | 2 | 25 | - | - | 1 | 20 | - | - | 1 | 10 | - |
| **MISSION PLUS SKILLS** | **MISSION PLUS SKILLS (4500-4999 Phase)** |
| | **Squadron 12 Aircraft** | **Squadron(-8 Aircraft** | **Detachment 4 Aircraft** | **Detachment 3 Aircraft** |
| | P | CC | AO | P | CC | AO | P | CC | AO | P | CC | AO |
| SEA | 4 | 22 | 2 | 11 | 2 | 11 | 1 | 14 | 1 | 7 | 1 | 7 | 1 | 8 | 1 | 4 | 1 | 4 | 2 | 6 | 1 | 3 | 1 | 3 |
| RIE | 3 | 11 | 3 | 11 | - | - | 2 | 7 | 2 | 7 | - | - | 1 | 4 | 1 | 4 | - | - | 1 | 3 | 1 | 2 | - | - |
| AD+ | 4 | 22 | 2 | 11 | - | 1 | 14 | 1 | 7 | - | - | 1 | 8 | 1 | 4 | - | - | 1 | 6 | 1 | 3 | - | - |
| TAC(A) | 1 | 2 | - | - | - | 1 | 1 | - | - | - | - | 1 | 1 | - | - | - | - | 1 | 1 | - | - |
| AC2 | 4 | 22 | - | 1 | 14 | - | - | 1 | 8 | - | - | - | - | 1 | 6 | - | - |

Note 1: A qualified crew chief may substitute the AO crew position.

Note 2: For Core Plus Skills and Mission Plus Skills, the first number (in blue font and highlighted in gray) represents the number of individuals the unit or squadron is expected to train at all times in order to retain a cadre of capability within the squadron. The second number represents the number of MET capable individuals the squadron should train if that MET becomes an Assigned/DirectedMission Set. For the 4000 Phase the commanding officer determines the number of aircrew to train. The CMTS is based upon the community’s collective recommendation.
1.9 INSTRUCTOR DESIGNATIONS

1.9.1 HMLA (UH-1Y) Tactical and Reserve Squadron

<table>
<thead>
<tr>
<th>HMLA UH-1Y</th>
<th>INSTRUCTOR TRAINING (5000 PHASE)</th>
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</thead>
<tbody>
<tr>
<td>CORE SKILLS</td>
<td>Squadron 12 Aircraft</td>
</tr>
<tr>
<td></td>
<td>P  CC  AO</td>
</tr>
<tr>
<td>BIP</td>
<td>6   -    -</td>
</tr>
<tr>
<td>TERF(I)</td>
<td>6   9    -</td>
</tr>
<tr>
<td>WTO</td>
<td>6   -    -</td>
</tr>
<tr>
<td>NSI</td>
<td>5   5    -</td>
</tr>
<tr>
<td>WTI</td>
<td>3   3    -</td>
</tr>
<tr>
<td>FAC(A)/I</td>
<td>2   -    -</td>
</tr>
<tr>
<td>DACM(I)*</td>
<td>2   -    -</td>
</tr>
<tr>
<td>FLSE**</td>
<td>3   -    -</td>
</tr>
<tr>
<td>AGI</td>
<td>-   7    -</td>
</tr>
</tbody>
</table>

* Per MAG
**FLSEs are Designated by the Group CO

1.9.2 HMLAT-303

<table>
<thead>
<tr>
<th>HMLAT-303 UH-1Y (14 Aircraft)</th>
<th>INSTRUCTOR TRAINING (5000 PHASE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGNATION</td>
<td>PILOT</td>
</tr>
<tr>
<td>BIP</td>
<td>17</td>
</tr>
<tr>
<td>TERF(I)</td>
<td>17</td>
</tr>
<tr>
<td>WTO</td>
<td>17</td>
</tr>
<tr>
<td>IP/FRSI</td>
<td>17</td>
</tr>
<tr>
<td>NS FRSI*</td>
<td>10</td>
</tr>
<tr>
<td>NSFI</td>
<td>8</td>
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<tr>
<td>NSI</td>
<td>9</td>
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<tr>
<td>NI/ANI</td>
<td>10</td>
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<tr>
<td>AGI</td>
<td>12</td>
</tr>
</tbody>
</table>

*HMLAT-303 NS Instructor requirements may include NSIs as well as NSFIs.

1.10 REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS (RCQD)

1.10.1 HMLA (UH-1Y) Tactical and Reserve Squadron

<table>
<thead>
<tr>
<th>HMLA UH-1Y</th>
<th>REQUIREMENT, CERTIFICATIONS, DESIGNATIONS, AND QUALIFICATIONS (RCQD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGNATIONS</td>
<td>Squadron 12 Aircraft</td>
</tr>
<tr>
<td>Functional Check Pilot (FCP)</td>
<td>6</td>
</tr>
</tbody>
</table>

1.10.2 HMLAT-303 Fleet Replacement Squadron

<table>
<thead>
<tr>
<th>HMLAT-303 UH-1Y (14 Aircraft)</th>
<th>REQUIREMENT, CERTIFICATIONS, DESIGNATIONS, AND QUALIFICATIONS (RCQD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGNATIONS</td>
<td>PILOTS</td>
</tr>
<tr>
<td>Utility Helicopter Commander (UHC)</td>
<td>17</td>
</tr>
<tr>
<td>Section Leader (SL)</td>
<td>17</td>
</tr>
<tr>
<td>Division Leader* (DL)</td>
<td>6</td>
</tr>
<tr>
<td>Flight Leader* (FL)</td>
<td>3</td>
</tr>
<tr>
<td>Functional Check Pilot (FCP)</td>
<td>14</td>
</tr>
</tbody>
</table>

* Flight Leader and Division Leader requirements apply to HMLAT squadron, not individual aircraft models (may be filled by UH or AH pilot). Note: Crew definitions for training are identified within each T&R event.
### Appendix A

**HMLA (UH-1Y)**

#### MISSION ESSENTIAL TASK LIST (METL)

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>MCT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCT 1.3.4.1</td>
<td>CAT</td>
<td>Conduct Combat Assault Transport</td>
</tr>
<tr>
<td>MCT 3.2.3.1.1</td>
<td>CAS</td>
<td>Conduct Close Air Support</td>
</tr>
<tr>
<td>MCT 3.2.3.1.2.3</td>
<td>SCAR</td>
<td>Conduct Strike Coordination and Reconnaissance</td>
</tr>
<tr>
<td>MCT 3.2.5.4</td>
<td>FAC(A)</td>
<td>Conduct Forward Air Control (Airborne)</td>
</tr>
<tr>
<td>MCT 6.2.1.1</td>
<td>TRAP</td>
<td>Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)</td>
</tr>
<tr>
<td>MCT 6.1.1.11</td>
<td>ESC</td>
<td>Conduct Aerial Escort</td>
</tr>
<tr>
<td>MCT 6.2.2</td>
<td>AE</td>
<td>Conduct Air Evacuation</td>
</tr>
</tbody>
</table>

#### CORE PLUS

<table>
<thead>
<tr>
<th>MET</th>
<th>SKILL ABBREVIATION</th>
<th>MCT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCT 1.3.3.3.1</td>
<td>SEA</td>
<td>Conduct Aviation Operations From Expeditionary Sea-Based Sites</td>
</tr>
<tr>
<td>MCT 1.3.4.1.1</td>
<td>RIE</td>
<td>Conduct Airborne Rapid Insertion/Extraction</td>
</tr>
<tr>
<td>MCT 4.3.4</td>
<td>AD</td>
<td>Conduct Air Delivery</td>
</tr>
<tr>
<td>MCT 5.3.2.7.3</td>
<td>TAC(A)</td>
<td>Conduct Tactical Air Coordination (Airborne) Operations</td>
</tr>
<tr>
<td>MCT 5.3.2.7.4</td>
<td>AC2</td>
<td>Provide an Airborne Command and Control Platform for Command Elements</td>
</tr>
</tbody>
</table>
MCT 1.3.4.1 Conduct Combat Assault Transport (CAT)

Conditions:

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C 1.1.1.2 Terrain Elevation
Height of immediate terrain in reference to sea level.
Descriptors: Very high (> 10,000 ft); High (6,000 to 10,000 ft); Moderately high (3,000 to 6,000 ft); Moderately low (1,000 to 3,000 ft); Low (500 to 1,000 ft); Very low (< 500 ft).

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3)  {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting CAT in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting CAT in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
MCT 3.2.3.1.1  Conduct Close Air Support (CAS)

**Conditions:**

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.1.3.11 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C.1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C.1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

**Standards:**

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

**Personnel:**
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

**Equipment:**
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting CAS in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting CAS in a medium threat environment.

**Output Standards:**
- 16/12/4/4 sorties daily sustained during contingency/combat
MCT 3.2.3.1.2.3  Conduct Strike Coordination and Reconnaissance (SCAR)

Conditions:

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.1.3.1 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action.
Descriptors: Full (Air Supremacy); General; Local.

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting SCAR in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting SCAR in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
MCT 3.2.5.4  Conduct Forward Air Control (Airborne) [FAC(A)]

Conditions:

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.1.3.11 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 9/7/3/2 UH-1Y and AH-1Z combined aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting FAC(A) in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 6/4/2/2 UH-1Y and AH-1Z combined aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting FAC(A) in a medium threat environment.

Output Standards:
18/13/5/4 combined UH and AH sorties daily sustained during contingency/combat.
MCT 6.2.1.1 Conduct Aviation Support of Tactical Recovery of Aircraft and Personnel (TRAP)

Conditions:

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.3.1.11 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Very low (< 1/8 NM); Low (1/8 to 1 NM); Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting TRAP in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting TRAP in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
MCT 6.1.1.11  Conduct Aerial Escort Operations (ESC)

Conditions:
C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.1.3.1 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
UH-1Y Squadron (12)/Squadron(-)8/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting ESC in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting ESC in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
MCT 6.2.2  Conduct Air Evacuation (AE)

Conditions:
C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C 1.1.1.2 Terrain Elevation
Height of immediate terrain in reference to sea level.
Descriptors: Very high (> 10,000 ft); High (6,000 to 10,000 ft); Moderately high (3,000 to 6,000 ft); Moderately low (1,000 to 3,000 ft); Low (500 to 1,000 ft); Very low (< 500 ft).

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting AE in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting AE in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
Core Plus

MCT 1.3.3.3.1 Conduct Aviation Operations From Expeditionary Sea-Based Sites (SEA)

Conditions:

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C 1.3.3.1 Air Temperature
Atmospheric temperature at ground level (degrees Fahrenheit).
Descriptors: Hot (> 85 F); Temperate (40 to 85 F); Cold (10 to 39 F); Very cold (< 10 F).

C 2.1.4.5 Intratheater Distance
Mileage between two locations (e.g., airfield to the FEBA).
Descriptors: Very short (< 10 NM); Short (10 to 50 NM); Moderate (50 to 150 NM); Long (150 to 500 NM); Very long (> 500 NM).

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
• 13/9/4/3 UH-1Y aircrews formed
• P-level of 2 or better

Equipment:
• 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
• Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
• 12/8/4/3 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
• Capable of supporting SEA in a high threat environment.

Baseline Training Standard (70% of CMMR):
• 8/5/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
• Capable of supporting SEA in a medium threat environment.

Output Standards:
• 16/12/4/4 sorties daily sustained during contingency/combat
MCT 1.3.4.1.1 Conduct Airborne Rapid Insertion/Extraction (RIE)

Conditions:

C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C 1.1.1.2 Terrain Elevation
Height of immediate terrain in reference to sea level.
Descriptors: Very high (> 10,000 ft); High (6,000 to 10,000 ft); Moderately high (3,000 to 6,000 ft); Moderately low (1,000 to 3,000 ft); Low (500 to 1,000 ft); Very low (< 500 ft).

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
UH-1N/Y Squadron (9)/Squadron(-)(6)/Detachment (3) {9/6/3} Aircraft
UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) {12/8/4} Aircraft

Standards:
UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 5/3/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting RIE in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 3/2/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting RIE in a medium threat environment.

Output Standards:
- 10/6/4/4 sorties daily sustained during contingency/combat
MCT 4.3.4 Conduct Air Delivery (AD+)

Conditions:
C 1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C 1.1.1.2 Terrain Elevation
Height of immediate terrain in reference to sea level.
Descriptors: Very high (> 10,000 ft); High (6,000 to 10,000 ft); Moderately high (3,000 to 6,000 ft); Moderately low (1,000 to 3,000 ft); Low (500 to 1,000 ft); Very low (< 500 ft).

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:
UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
• 13/9/4/3 UH-1Y aircrews formed
• P-level of 2 or better

Equipment:
• 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
• Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
• 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
• Capable of supporting AD in a high threat environment.

Baseline Training Standard (70% of CMMR):
• 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
• Capable of supporting AD in a medium threat environment.

Output Standards:
• 16/12/4/4 sorties daily sustained during contingency/combat
MCT 5.3.2.7.3 Conduct Tactical Air Coordination (Airborne) Operations [TAC(A)]

Conditions:

C 2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3) {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 1/1/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting TAC(A) in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 1/1/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting TAC(A) in a medium threat environment.

Output Standards:
- 1/1/1/1 sorties daily sustained during contingency/combat
MCT 5.3.2.11  Provide an Airborne Command and Control Platform for Command Elements (AC2)

Conditions:

C.1.3.2.3 Aviation Meteorological Conditions
Current weather/flight conditions affecting flight rules next 24 hours.
Descriptors: VMC (Conditions that permit flight using external cues and a distinguishable horizon.)

C.1.3.1.3.11 Ceiling
Height of lowest cloud cover above sea level.
Descriptors: Low (100 to 3,000 feet); Medium (3,000 to 10,000 feet); High (>10,000 feet)

C.1.3.2 Visibility
Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.
Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C.1.3.2.1 Light
Light available to illuminate objects from natural or manmade sources.
Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

C.2.7.2 Air Superiority
The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local.

Standards:

UH-1Y Squadron (12)/Squadron(-)(8)/Detachment (4) /Detachment (3)  {12/8/4/3} Aircraft

Personnel:
- 13/9/4/3 UH-1Y aircrews formed
- P-level of 2 or better

Equipment:
- 70% Mission Capable aircraft with the associated aircraft survivability equipment, mission systems and mission sets required to conduct the MET. (8/5/3/2 UH-1Y aircraft)
- Operational support equipment fully supports MCT

Advanced Training Standard (CMMR):
- 8/6/2/2 UH-1Y aircrews MET capable IAW T&R requirements

Advanced Capability:
- Capable of supporting AC2 in a high threat environment.

Baseline Training Standard (70% of CMMR):
- 5/4/1/1 UH-1Y aircrews MET capable IAW T&R requirements

Baseline Capability:
- Capable of supporting AC2 in a medium threat environment.

Output Standards:
- 16/12/4/4 sorties daily sustained during contingency/combat
## Appendix B

### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Skill/Stage Abbreviations</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Aerial Delivery</td>
</tr>
<tr>
<td>ESC</td>
<td>Aerial Escort</td>
</tr>
<tr>
<td>AE</td>
<td>Air Evacuation</td>
</tr>
<tr>
<td>AMC</td>
<td>Air Mission Commander</td>
</tr>
<tr>
<td>ANSQ</td>
<td>Advanced Night Systems Qualification</td>
</tr>
<tr>
<td>AR</td>
<td>Armed Reconnaissance</td>
</tr>
<tr>
<td>CAT</td>
<td>Assault Support/Combat Assault Transport</td>
</tr>
<tr>
<td>BIP</td>
<td>Basic Instructor Pilot</td>
</tr>
<tr>
<td>CQ</td>
<td>Carrier Qualification</td>
</tr>
<tr>
<td>CBRN</td>
<td>Chemical Biological Radiological Nuclear</td>
</tr>
<tr>
<td>CAS</td>
<td>Close Air Support</td>
</tr>
<tr>
<td>CC</td>
<td>Command and Control</td>
</tr>
<tr>
<td>CSIC</td>
<td>Core Skill Introduction Check</td>
</tr>
<tr>
<td>CSI</td>
<td>Contract Simulator Instructor</td>
</tr>
<tr>
<td>DACM</td>
<td>Defensive Air Combat Maneuvering</td>
</tr>
<tr>
<td>DACMI</td>
<td>Defensive Air Combat Maneuvering Instructor</td>
</tr>
<tr>
<td>DSGM</td>
<td>Designation</td>
</tr>
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<td>DFORM</td>
<td>Division Formation</td>
</tr>
<tr>
<td>DL</td>
<td>Division Leader</td>
</tr>
<tr>
<td>EXP</td>
<td>Expeditionary Shore-Based Sites</td>
</tr>
<tr>
<td>FACA</td>
<td>Forward Air Controller (Airborne)</td>
</tr>
<tr>
<td>FACA I</td>
<td>Forward Air Controller (Airborne) Instructor</td>
</tr>
<tr>
<td>FAM</td>
<td>Familiarization</td>
</tr>
<tr>
<td>FCF</td>
<td>Functional Check Flight</td>
</tr>
<tr>
<td>FCLP</td>
<td>Field Carrier Landing Practice</td>
</tr>
<tr>
<td>FRSI</td>
<td>Fleet Replacement Squadron Instructor</td>
</tr>
<tr>
<td>FL</td>
<td>Flight Leader</td>
</tr>
<tr>
<td>FLSE</td>
<td>Flight Leadership Standardization Evaluator</td>
</tr>
<tr>
<td>FORM</td>
<td>Formation</td>
</tr>
<tr>
<td>FW DACM</td>
<td>Fixed Wing Defensive Air Combat Maneuvering</td>
</tr>
<tr>
<td>INST</td>
<td>Instruments</td>
</tr>
<tr>
<td>NATOPS</td>
<td>Naval Aviation Training and Operating Procedures Standardization</td>
</tr>
<tr>
<td>NAV</td>
<td>Navigation</td>
</tr>
<tr>
<td>NSI</td>
<td>Night System Familiarization Instructor</td>
</tr>
<tr>
<td>NSI</td>
<td>Night Systems Instructor</td>
</tr>
<tr>
<td>NSI HLI</td>
<td>Night Systems Familiarization (High Light Level)</td>
</tr>
<tr>
<td>NSI LL</td>
<td>Night Systems Familiarization (Low Light Level)</td>
</tr>
<tr>
<td>NUAI</td>
<td>NATOPS Instructor / Assistant NATOPS Instructor</td>
</tr>
<tr>
<td>NFAM</td>
<td>Night Vision Devices Familiarization</td>
</tr>
<tr>
<td>NFOM</td>
<td>Night Vision Devices Familiarization</td>
</tr>
<tr>
<td>NNAV</td>
<td>Night Vision Devices Navigation</td>
</tr>
<tr>
<td>NTVF</td>
<td>Night Vision Devices Terrain Flight</td>
</tr>
<tr>
<td>OAS</td>
<td>Offensive Air Support</td>
</tr>
<tr>
<td>OAAW</td>
<td>Offensive Anti-Air Warfare</td>
</tr>
<tr>
<td>PQM</td>
<td>Pilot Qualified in Model</td>
</tr>
<tr>
<td>PFLT</td>
<td>Preflight</td>
</tr>
<tr>
<td>QUAL</td>
<td>Qualification</td>
</tr>
<tr>
<td>ROCHECE</td>
<td>Reconnaissance</td>
</tr>
<tr>
<td>RII</td>
<td>Rapid Insertion Extraction</td>
</tr>
<tr>
<td>RQD</td>
<td>Requirements-Qualifications Designation</td>
</tr>
<tr>
<td>RW DACM</td>
<td>Rotary Wing Defensive Air Combat Maneuvering</td>
</tr>
<tr>
<td>SIM</td>
<td>Simulator</td>
</tr>
<tr>
<td>S2AR</td>
<td>Strike Coordination and Reconnaissance</td>
</tr>
<tr>
<td>SL</td>
<td>Section Leader</td>
</tr>
<tr>
<td>SUASI</td>
<td>Standardization Instructor / Assistant Standardization Instructor</td>
</tr>
<tr>
<td>SOCT</td>
<td>Specific Operations Tracking Codes</td>
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<tr>
<td>SWD</td>
<td>Specific Weapons Delivery</td>
</tr>
<tr>
<td>TSI</td>
<td>Tactical Simulator Instructor</td>
</tr>
<tr>
<td>TAC (A)</td>
<td>Tactical Air Coordinator Airborne</td>
</tr>
<tr>
<td>TAC (A)</td>
<td>Tactical Air Coordinator Airborne</td>
</tr>
<tr>
<td>TAC</td>
<td>Tactics</td>
</tr>
<tr>
<td>TCT</td>
<td>Threat Counter-Tactics</td>
</tr>
<tr>
<td>TEN</td>
<td>Tactical Environment Network</td>
</tr>
<tr>
<td>TEN+</td>
<td>Enhanced Tactical Environment Network</td>
</tr>
<tr>
<td>TERF</td>
<td>Terrain Flight</td>
</tr>
<tr>
<td>TERFI</td>
<td>Terrain Flight Instructor</td>
</tr>
<tr>
<td>TRAP</td>
<td>Tactical Recovery of Aircraft and Personnel</td>
</tr>
<tr>
<td>UHC</td>
<td>Utility Helicopter Commander</td>
</tr>
<tr>
<td>URB</td>
<td>Urban Offensive Air Support</td>
</tr>
<tr>
<td>WTI</td>
<td>Weapons and Tactics Instructor</td>
</tr>
<tr>
<td>WTO</td>
<td>Weapons Training Officer</td>
</tr>
<tr>
<td>WTTTP</td>
<td>Weapons and Tactics Training Program</td>
</tr>
</tbody>
</table>

B-1
### General

Pilots shall annotate ordnance expended in M-SHARP. This information shall be tracked by operations to ensure that all pilots meet ordnance proficiency requirements spelled out in the event descriptions to the maximum extent practical. There is a high likelihood that pilots may not expend the entire ordnance amount allotted on a particular sortie due to a variety of reasons (equipment malfunction, switchology, range constraints, training priorities, etc). This ordnance “deficit” adversely impacts pilot proficiency. Ordnance expenditure tracking will allow operations to identify and correct pilot deficits by increasing ordnance loads on subsequent hops, selective scheduling, or other methods.

Additional ordnance requirements such as illumination, flechette, APKWS, expendables and WP for FAC(A) target marking are specified for certain events.

### Ordnance Tables

#### UH-1Y ORDNANCE ROLL-UP TABLE BY PROGRAM OF INSTRUCTION (POI) AND DESIGNATION

<table>
<thead>
<tr>
<th>Ordnance Requirements By Phase (per pilot)</th>
<th>Ordnance Requirements By Syllabus (per pilot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE</td>
<td>POI</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>2.75” HE</td>
<td>2.75” RP</td>
</tr>
<tr>
<td>7.62mm (M240)</td>
<td>APKWS</td>
</tr>
<tr>
<td>Chaff</td>
<td>0</td>
</tr>
<tr>
<td>Flare</td>
<td>0</td>
</tr>
</tbody>
</table>

#### REFRESHER POI

<table>
<thead>
<tr>
<th>Ordnance Requirements By Phase (per pilot)</th>
<th>Ordnance Requirements By Syllabus (per pilot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE</td>
<td>POI</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>2.75” HE</td>
<td>2.75” RP</td>
</tr>
<tr>
<td>7.62mm (M240)</td>
<td>APKWS</td>
</tr>
<tr>
<td>Chaff</td>
<td>0</td>
</tr>
<tr>
<td>Flare</td>
<td>0</td>
</tr>
</tbody>
</table>

#### SERIES CONVERSION POI

<table>
<thead>
<tr>
<th>Ordnance Requirement (per pilot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POI</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>2.75” HE</td>
</tr>
<tr>
<td>2.75” RP</td>
</tr>
<tr>
<td>APKWS</td>
</tr>
<tr>
<td>Chaff</td>
</tr>
<tr>
<td>Flare</td>
</tr>
</tbody>
</table>

Note 1: Crew-served weapon amounts are calculated to be two-thirds of the total rounds required if each weapon was used on each applicable T&R event, based on the fact that only two of the three weapons will be used for each event. This assumes an even distribution of ammunition types across all events.

Note 2: Includes required NSQ and ANSQ Core Skills events.

Note 3: Only includes Mission Skills events through TRAP-3308.
### UH-1Y Yearly Currency Ordnance Requirement (per Pilot)

<table>
<thead>
<tr>
<th>Ordnance</th>
<th>UHC</th>
<th>FAC(A)</th>
<th>CPSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.75&quot; HE</td>
<td>84</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>2.75&quot; RP</td>
<td>0</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>APKWS</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illum</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flechette</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.50 Cal (GAU-21)</td>
<td>3,600</td>
<td>1,200</td>
<td>800</td>
</tr>
<tr>
<td>7.62mm (GAU-17)</td>
<td>17,000</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>7.62mm (M240)</td>
<td>3,600</td>
<td>1,200</td>
<td>800</td>
</tr>
<tr>
<td>Chaff</td>
<td>210</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>Flare</td>
<td>210</td>
<td>90</td>
<td>60</td>
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</table>

### HMLA (UH-1Y) Yearly Ordnance Requirement

#### BASIC (ATTAIN)

<table>
<thead>
<tr>
<th>POI &amp; Design</th>
<th>CSP</th>
<th>UHC</th>
<th>SL</th>
<th>WTO</th>
<th>NSI</th>
<th>FAC(A)</th>
<th>DL</th>
<th>UHC</th>
<th>Full T&amp;R</th>
<th>UHC</th>
<th>Full T&amp;R</th>
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</thead>
<tbody>
<tr>
<td>2.75&quot; HE</td>
<td>672</td>
<td>336</td>
<td>56</td>
<td>42</td>
<td>84</td>
<td>0</td>
<td>28</td>
<td>210</td>
<td>308</td>
<td>504</td>
<td>125</td>
</tr>
<tr>
<td>2.75&quot; RP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>0</td>
<td>105</td>
</tr>
<tr>
<td>APKWS</td>
<td>0</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illum</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flechette</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.50 Cal</td>
<td>25,600</td>
<td>25,600</td>
<td>3,200</td>
<td>2,400</td>
<td>8,000</td>
<td>2,400</td>
<td>1,600</td>
<td>9,600</td>
<td>16,000</td>
<td>21,600</td>
<td>28,000</td>
</tr>
<tr>
<td>7.62mm (GAU-17)</td>
<td>128,000</td>
<td>104,000</td>
<td>8,000</td>
<td>6,000</td>
<td>12,000</td>
<td>12,000</td>
<td>4,000</td>
<td>42,000</td>
<td>64,000</td>
<td>102,000</td>
<td>125,000</td>
</tr>
<tr>
<td>7.62mm (M240)</td>
<td>25,600</td>
<td>25,600</td>
<td>3,200</td>
<td>2,400</td>
<td>8,000</td>
<td>2,400</td>
<td>1,600</td>
<td>9,600</td>
<td>16,000</td>
<td>21,600</td>
<td>28,000</td>
</tr>
<tr>
<td>Chaff</td>
<td>720</td>
<td>1,680</td>
<td>240</td>
<td>180</td>
<td>180</td>
<td>120</td>
<td>660</td>
<td>1,140</td>
<td>1,260</td>
<td>1,800</td>
<td>2,160</td>
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<tr>
<td>Flare</td>
<td>720</td>
<td>1,680</td>
<td>240</td>
<td>180</td>
<td>180</td>
<td>120</td>
<td>660</td>
<td>1,140</td>
<td>1,260</td>
<td>1,800</td>
<td>2,160</td>
</tr>
</tbody>
</table>

Note 4: Total squadron requirements listed within this table are calculated for pilot training/proficiency and do not include crew served ammunition requirements for Crew Chief/Aerial Gunner training/proficiency.

Note 5: Totals based on the following assumptions, a T/O squadron broken down as follows: 8 pilots in the basic POI for CSP and UHC, 6 pilots maintaining the UHC qual and 5 pilots maintaining all T&R events. Of the pilots maintaining UHC, 4 are in the basic POI for SL, 3 are in the basic POI for WTO, and 2 are in the basic POI for NSI, DL and FAC(A). 2 pilots are in the UHC refresher syllabus and 2 pilots are in the full T&R refresher syllabus.

### External Ordnance

#### BASIC/TRANSITION/CONVERSION (per pilot)

<table>
<thead>
<tr>
<th>Ordnance</th>
<th>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
<th>6000</th>
<th>REFRESH¹</th>
<th>IUT²</th>
<th>ANNUAL³,⁴</th>
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</thead>
<tbody>
<tr>
<td>HE Artillery</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
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<td>6</td>
<td>10</td>
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<tr>
<td>WP Artillery</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>CAS Bombs</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>8</td>
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B-3
## APPENDIX C - READINESS SUPPLEMENTS

### Squadron 12 Aircraft

#### HMLA (UH-1Y) Squadron 12 Aircraft

<table>
<thead>
<tr>
<th>MCT</th>
<th>MISSN ESSENTIAL TASK(MIT)</th>
<th>DESCRIPTION</th>
<th>PILOT UHC</th>
<th>COPILOT</th>
<th>CC</th>
<th>AO</th>
<th>CREWS TRAINED</th>
<th>AIRCRAFT MAINTENANCE</th>
<th>COLLECTIVE MAX DAILY SORTIE OUTPUT</th>
<th>STAFFING GOAL (PILOTS)</th>
<th>STAFFING GOAL (CREW CHIEFS)</th>
<th>CREWS TRAINED (70% CMMR)</th>
<th>T/O PILOTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3.4.1</td>
<td>CAT</td>
<td>Conduct Combat Assault Transport</td>
<td>16</td>
<td>8</td>
<td>5</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
<td>12</td>
<td>30%</td>
<td>8</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>3.2.3.1.1</td>
<td>CAS</td>
<td>Conduct Close Air Support</td>
<td>16</td>
<td>8</td>
<td>5</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
<td>12</td>
<td>30%</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2.3.1.2</td>
<td>SCAR</td>
<td>Conduct Battle Coordination and Reconnaissance</td>
<td>16</td>
<td>8</td>
<td>5</td>
<td>MSP</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
<td>12</td>
<td>30%</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2.5.4</td>
<td>FAC(A)</td>
<td>Conduct Forward Air Control (Airborne)</td>
<td>18**</td>
<td>9**</td>
<td>6**</td>
<td>MSP, FAC(A)</td>
<td>ANSQ</td>
<td>ANSQ, AG*</td>
<td>ANSQ, AG*</td>
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**Critical MOSs - 7563, 6174, 6019, 6012, 6324, 6154, 6531, 6014, 6591, 6032, 6036, 6017, 6018, 7577, 7547, 7544, 6711.** P-level 2 or better.

Personnel - P-Level 2 or better.

* AG Qualified in one or more weapons systems, or paired with NSICU at Under Training (UT).
** Reflects both AH & UH output standards and crews.
## Squadron(-) 8 Aircraft

### HMLA (UH-1Y) Squadron(-) 8 Aircraft

|Mission Essential Task (MET)| Mission Skill | Description | Daily Output | Standard Trained Crews Trained | Pilot UHC | CoPilot | CC | AO | Aircraft Maintenance | Core Plus | Staffing Goal (Crew Chiefs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|MCT 1.3.4.1| CAT| Conduct Combat Assault Transport| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 3.2.3.1.1| CAS| Conduct Close Air Support| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 3.2.3.2.1| SCA| Conduct Strike Coordination and Reconnaissance| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 3.2.3.4| PACT| Conduct Forward Air Control (Aerial)| 13**| 7**| 4**| MSP, PACT| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 6.2.1.1| TRAP| Conduct Aerial Support of Tactical Recovery of Aircraft and Personnel (TRAP)| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 6.1.1.1| SIC| Conduct Strike| 12| 6| 4| MSP| ANSQ| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 6.2.2| AE| Conduct Air Support| 12| 6| 4| MSP| ANSQ| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|

### Core Plus

|Mission Essential Task (MET)| Mission Skill | Description | Daily Output | Standard Trained Crews Trained | Pilot UHC | CoPilot | CC | AO | Aircraft Maintenance | Core Plus | Staffing Goal (Crew Chiefs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|MCT 1.3.3.3| SFA| Conduct Aviation Operations from Expeditionary Sea-Based Bases| 12| 8| 5| MSP, CQ| ANSQ, CQ| ANSQ, CQ| 8| 70%| 5|
|MCT 1.3.4.1| RBE| Conduct Aerial Rapid Aviation Refueling| 6| 5| 2| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 4.3.4| AD| Conduct Air Defense| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|
|MCT 5.3.2.7.3| TAC| Conduct Tactical Air Coordination (Aerial Operations)| 1| 1| 1| MSP| ANSQ| ANSQ, AG*| 8| 70%| 5|
|MCT 5.3.2.7.4| AC2| Provide Air Defender Command and Control (Enhanced)| 12| 6| 4| MSP| ANSQ| ANSQ, AG*| ANSQ, AG*| 8| 70%| 5|

### Critical MOSs - 7563, 6174, 6324, 6114, 6591, 6012, 6018, 7547, 7544, 6171. P-level 2 or better.

Personnel - P-level 2 or better.

* AG Qualified in one or more weapons systems, or paired with NSI CC if Under Training (UT).

** Reflects both AH & UH output standards and crews.
## Detachment 4 Aircraft

**HMLA (UH-1Y) Detachment 4 Aircraft**

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<th>CREWS TRAINED</th>
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<th>COPILOT</th>
<th>CC</th>
<th>AO</th>
<th>AIRCRAFT MAINTENANCE</th>
<th>COLLECTIVE MAX DAILY SORTIE OUTPUT</th>
<th>STAFFING GOAL</th>
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**Core Plus**

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Critical MOSs - 7563, 6174, 6016, 6324, 6511, 6144, 6591, 6034, 6017, 6018, 7577, 6177, 7547, 7544, 6171. P-level 2 or better.

Personnel - P-Level 2 or better.

* AG Qualified in one or more weapons systems, or paired with NSI CC if Under Training (UT).

**Reflects both AH & UH output standards and crews.**

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C-3
### Detachment 3 Aircraft

#### HMLA (UH-1Y) Detachment 3 Aircraft

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Critical MOSs - 7563,6174,6019,6324,6531,6144,6591,6312,6266,6017,6018,7577,6177,7547,7544,7511. P-level 2 or better.
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</tr>
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</table>
CHAPTER 2

UH-1Y PILOT (MOS 7563)

2.0 INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R Syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit warfighting capabilities.

2.1 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the minimum to maximum time per Phase for the UH-1Y Pilot. Units should use the model as a guide to generate individual training plans.

![UH-1Y Pilot Training Progression Model](image)

**Figure 2-1. UH-1Y Recommended Training Progression Model (months)**

2.2 PROGRAMS OF INSTRUCTION (POI). *Pilot Training Officers shall ensure pilots are placed in the appropriate syllabus (B, R, SC, MR) in M-SHARP, in order to ensure M-SHARP functions properly.* In accordance with POI updating rules, when all R or SC-coded events are completed, all remaining events in that stage/skill are updated. Any events that have Never Been Attempted (NBA) or are logged as Incomplete are not updated and must be completed. *Therefore, all Refresher and Series Conversion pilots shall ensure previously flown events are appropriately logged, based on the last date flown.* If the flight was flown under a previous T&R (UH-1Y or UH-1N), reference the UH-1Y Pilot Syllabus Matrix (paragraph 2.22) to ensure events are converted correctly. Modified syllabi approved by appropriate authority shall be filed in the APR.

2.2.1 Basic (B) POI. The Basic syllabus includes all events and is required for initial training. Transition pilots are also assigned to the Basic POI. At the discretion of the FRS Commanding Officer, U.S. and international exchange pilots, previously qualified in similar type aircraft, may be assigned a SC POI for the Core Introduction (1000) Phase.
<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Interactive Courseware</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>3-26</td>
<td>Core Skill Introduction Training</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>27-165</td>
<td>Core Skill/Mission Skill Training</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>54-190</td>
<td>Core Plus Skill Training</td>
<td>Tactical Squadron</td>
</tr>
</tbody>
</table>

2.2.2 **Series Conversion (SC) POI**  
The Series Conversion syllabus is provided for personnel converting directly to the UH-1Y from the UH-1N. After performing event conversion in accordance with the T&R syllabus matrix, a previously designated UH-1N pilot in the Series Conversion syllabus shall fly all “SC” coded events to reach their prior designation level. The Series Conversion syllabus is designed for the UH-1N pilot who has not been out of the UH-1N cockpit for longer than 485 days; those pilots shall fly all “SC” coded Core Skill Introduction (1000) events. Series Conversion pilots out of the UH-1N cockpit greater than 485 days shall fly all “SC” coded events in the Core Skill Introduction (1000) syllabus with the addition of the following events: SFAM-1102, FAM-1103, FAM-1108, STCT-1700.

U.S. and international exchange pilots may be eligible for a SC syllabus in the Core Introduction (1000) Phase, at the discretion of the FRS Commanding Officer. The syllabus should be predicated on the experience of the pilot and consider previous qualifications, familiarity with similar type aircraft and language skills. The syllabus can be extended to include any event from the Basic POI, but at no time shall it be less than the full SC POI.

To regain UHC, flight leadership designations and FAC(A) (as applicable), the SC events listed in the 2000 through 5000 level shall be completed in any order, and in no fewer than 18 flight hours in the aircraft. CAT-2404 and CAT-2405 shall be flown under LLL conditions. All other flights may be flown under any light level condition. TERF qualification may be granted after the completion of TERF-2101. NSQ-LLL may be granted after the completion of CAT-2403. NSQ-LLL may be granted after the completion of NSQ-LLL, CAT-2404, and CAT-2405.

To regain instructor designations (BIP, TERFI, WTO, NSI and WTI), a total of 30 **aircraft flight hours** must be flown, inclusive of the flight time from the above paragraph, but not including flight time from the 1000 Phase syllabus. Additionally, a BIP-5103, SWTO-5201, and WTO-5204 shall be flown if regaining BIP and/or WTO designations. Events that can count toward the 30 flight hour total are any 4000 Phase event and:

- REC-2301
- CAT-2401
- SWD-2610
- SWD-2609
- TERF-2102
- CAT-2405
- ESC-3101
- ESC-3102
- ESC-3103
- CAT-3200
- CAT-3203
- CAT-3204
- CAT-3205
- CAS-3303
- SCAR-3305
- SCAR-3306
- TRAP-3500
- FACA-3401
- FACA-3402
- FACA-3403
- FACA-3404

These Events shall be flown under the light level conditions prescribed in the Event description. For pilots regaining the NSI designation, at least 15 of the 30 total flight hours shall be flown at night. BIP-5103, WTO-5204, and NSI-5904 may count toward the 30 flight hour requirement. All flight time gained while accomplishing a T&R Event shall count toward the required flight time.

For conversion from the UH-1Y to the UH-1N see the UH-1N T&R.

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Interactive Courseware</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>3</td>
<td>Core Introduction Training</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>9-17</td>
<td>Core Skill/Mission Skill Training</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>9-17</td>
<td>Core Plus Skill Training</td>
<td>Tactical Squadron</td>
</tr>
</tbody>
</table>

2.2.3 **Modified Refresher/Refresher (MR/R) POI**

Refresher Syllabus. A Refresher syllabus is provided for personnel returning to an operational squadron
who have previously completed the UH-1Y Basic or Series Conversion POI. Experienced pilots (completed at least one fleet tour in an operational unit) returning to a squadron, shall be assigned to the Refresher or Modified Refresher POIs as follows:

Regardless of the type of billet returning from, pilots having not flown the UH-1Y for < 485 days will conduct Refresher training at the tactical unit.

Pilots returning from a DIFOP billet, where a helicopter was flown, having not flown the UH-1Y for > 485 days will conduct Modified Refresher training at the FRS.

Pilots returning from a DIFDEN billet, or a DIFOP billet where a helicopter was not flown, having not flown a UH-1Y for > 485 days but ≤ 730 days shall conduct Modified Refresher training at the FRS.

Regardless of the type of billet returning from, pilots having not flown the UH-1Y for > 730 days will conduct full Refresher training beginning at the FRS.

Upon checkin to the FRS, an MIR-1999 code shall be logged for the R/MR PUI using the date of last flight in their fleet aircraft.

The Refresher syllabus is predicated on the experience of the Refresher pilot. A pilot in the Refresher syllabus should fly all “R” coded events; however, a pilot need not fly every event within a stage of training to be re-qualified in that stage. The commanding officer may tailor the Refresher syllabus to fit the experience of the Refresher pilot per the T&R Program Manual. This assumes that the Refresher has had previous proficiency in that stage of training. If the pilot has no previous proficiency in a stage or particular event, then the pilot should fly the entire stage or all events not previously flown. The Refresher syllabus applies only up to the stage achieved during the prior tour. After completion of appropriate Refresher syllabus, the pilot will complete the entire remaining syllabus. Prerequisites apply only to replacement aircrew and not to Refresher pilots.

Previously designated UH-1N pilots will be assigned to the Refresher POI upon completion of FRS Series Conversion training. After performing event conversion in accordance with UH-1Y Pilot Syllabus Matrix (paragraph 2.22), previously designated UH-1N pilots shall complete all R coded events. Events the previously designated pilot did not complete or were added to this T&R manual since they left DIFOP status will not be logged in M-SHARP and must be flown to attain proficiency. **M-SHARP will not automatically convert UH-1N T&R syllabus codes for proficiency in the UH-1Y. The Pilot Training Officer will have to manually enter these dates for each pilot before commencing Core Skill training in the Refresher POI at the tactical unit.** At the discretion of the commanding officer pilots under the Refresher POI who were previously NSQ-LLL (ANSQ) qualified may conduct NS or (NS) Refresher syllabus events under HLL or LLL conditions.

**Modified Refresher Syllabus.** A Modified Refresher syllabus, for pilots not requiring a full Refresher POI, is provided to expedite training at the FRS. It can be individually tailored as specified by the commanding officer of the FRS. However, in no case will this syllabus exclude any events included in the Modified Refresher syllabus detailed in this manual. Following the FRS, the Refresher should follow the Refresher syllabus described above; however, the commanding officer may tailor the Refresher syllabus to fit the experience of the Refresher pilot per the T&R Program Manual.

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Interactive Courseware</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>3-8</td>
<td>Core Introduction Training</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>9-30</td>
<td>Core Skill/Mission Skill Training</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>9-30</td>
<td>Core Plus Skill Training</td>
<td>Tactical Squadron</td>
</tr>
</tbody>
</table>

### 2.2.4 Fleet Replacement Squadron and NATOPS/Assistant NATOPS POI

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Fleet Replacement Squadron Instructor</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>1</td>
<td>Night Systems Familiarization Instructor</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>1</td>
<td>NATOPS/Assistant NATOPS Instructor</td>
<td>Tactical Squadron</td>
</tr>
</tbody>
</table>
2.2.5 Basic Instructor Pilot and Stage Instructor POI

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<thead>
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<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
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</thead>
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<tr>
<td>2</td>
<td>Basic Instructor Pilot</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>1</td>
<td>Terrain Flight Instructor</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>2</td>
<td>Weapons Training Officer Instructor</td>
<td>Tactical Squadron</td>
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2.2.6 MAWTS-1 Level Instructor POI

<table>
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<tr>
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<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
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<tbody>
<tr>
<td>24</td>
<td>Night Systems Instructor</td>
<td>MAWTS-1</td>
</tr>
<tr>
<td>24</td>
<td>Defensive Aerial Combat Maneuvering Instructor</td>
<td>MAWTS-1</td>
</tr>
<tr>
<td>24</td>
<td>Forward Air Controller (Airborne) Instructor</td>
<td>MAWTS-1</td>
</tr>
<tr>
<td>8</td>
<td>Tactical Air Coordinator (Airborne) Instructor</td>
<td>MAWTS-1</td>
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</tbody>
</table>

2.2.7 Flight Leadership POI

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Section Leader</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>1-4</td>
<td>Division Leader</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>1-2</td>
<td>Flight Leader</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>1-2</td>
<td>Air Mission Commander</td>
<td>Tactical Squadron</td>
</tr>
<tr>
<td>1</td>
<td>Flight Leadership Standardization Evaluator</td>
<td>Group Designated</td>
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</tbody>
</table>

2.3 PROFICIENCY & CURRENCY

2.3.1 Event Proficiency. Event proficiency is defined as successful completion of the performance standard as determined by the instructor or evaluator. Event completion is predicated upon demonstrated proficiency. Once completed, it is logged in M-SHARP by entering the appropriate event code. M-SHARP automatically updates the event proficiency date to reflect the completion date.

2.3.2 Skill Proficiency. Proficiency is a measure of achievement of a specific skill. To attain Individual Skill proficiency, an individual must be simultaneously proficient in all events for that Skill. Individuals may be attaining proficiency in some skills while maintaining proficiency in others.

Maintaining Skill Proficiency. Once attained, skill proficiency is maintained by executing those events which have a Proficiency Period (Maintain events). Proficiency Periods establish the maximum time between Event demonstration. Should proficiency be lost in any maintain event, for a specific skill, that skill proficiency is temporarily lost. Skill proficiency can be re-attained by again demonstrating proficiency in the Event(s) that are not proficient. For flying communities, an individual shall complete delinquent events with a proficient instructor, crewman/flight lead as delineated by the T/M/S Syllabus Sponsor (see Chapter 3 of the Program Manual on specific instructor requirements for Low Altitude Flight, Night Systems, ACM, DM, DACM, DCM, FAC(A)).

Loss Of Individual Skill Proficiency. Should an individual lose proficiency in all maintain events in a skill, the individual will be assigned to the Refresher POI for the skill. To regain skill proficiency, the individual must demonstrate proficiency in all R-coded events for the skill.

Loss of Unit Skill Proficiency. If an entire unit loses proficiency in an Event, unit instructors shall regain proficiency by completing the Event with an instructor from a like unit. If not feasible, the instructor shall regain proficiency by completing the Event with another instructor. For flying communities, if a unit has only one instructor and cannot complete the Event with an instructor from another unit, the instructor shall regain proficiency with another aircraft commander or as designated by the commanding officer.

Proficiency Status. Proficiency is a “Yes/No” status by skill assigned to an individual. When an individual attains and maintains Core Skill Proficiency (CSP), Mission Skill Proficiency (MSP), Core Plus Skill Proficiency (CPSP), or Mission Plus Skill Proficiency (MPSP), the individual may count towards CMMR or CMTS.

2.3.3 Skill Currency. Currency is a control measure used to provide an additional margin of safety based on exposure frequency to a particular skill and applies to all MOS’s that must comply with NATOPS and CNAF requirements. It is a measure of time since the last event demanding that specific skill. For example, currency determines minimum altitudes in...
rules of conduct based upon the most recent low altitude fly date. Specific currency requirements for aircrew individual type mission profiles can be found in Chapter 3 of the T&R Program Manual.

2.4 REQUIREMENTS, QUALIFICATION AND DESIGNATION TABLES. The tables below delineate T&R Events required to be completed to attain proficiency, and initial qualifications and designations. In addition to Event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing final Events. Qualification and designation letters shall be signed by the commanding officer and placed in the individual’s NATOPS jacket. Loss of proficiency in all qualification Events causes the associated qualification to be lost. Regaining a qualification requires completing all delinquent R-coded syllabus events associated with that qualification.

### UH-1Y PILOT INDIVIDUAL QUALIFICATION REQUIREMENTS

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Initial Event Qualification Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>INST</td>
<td>6100, IAW CNAF M-3710.7 and annual qualification letter signed by commanding officer.</td>
</tr>
<tr>
<td>NATOPS</td>
<td>6101, IAW CNAF M-3710.7 and annual qualification letter signed by commanding officer.</td>
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<tr>
<td>TERFQ</td>
<td>2100, 2101</td>
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<td>NSQ-HLL</td>
<td>2101, 2400, 2401, 2402, 2403</td>
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<td>NSQ-LLL</td>
<td>NSQ-HLL, 2802, 2404, 2102, 2405</td>
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<td>FAC(A)</td>
<td>3400, 3401, 3402, 3403, 3404, 3405</td>
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<td>CQ Day</td>
<td>4603</td>
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<tr>
<td>CQ NVD</td>
<td>4604</td>
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<tr>
<td>CQ Night Unaided</td>
<td>4605</td>
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<tr>
<td>RW DACM</td>
<td>TERFQ, 4301, 4302, 4303</td>
</tr>
<tr>
<td>FW DACM</td>
<td>TERFQ, 4304, 4305</td>
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<td>TAC(A)</td>
<td>FAC(A), 4500</td>
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### UH-1Y PILOT INDIVIDUAL DESIGNATION REQUIREMENTS

<table>
<thead>
<tr>
<th>Designation</th>
<th>Individual Event Designation Requirements</th>
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</thead>
<tbody>
<tr>
<td>PQM</td>
<td>Successful completion of NATOPS and Instrument checks and CIX-1901</td>
</tr>
<tr>
<td>FCP</td>
<td>DESG-6300, FCP-6200, 6201, 6202, 6203, 6204 and IAW UH-1Y NATOPS</td>
</tr>
<tr>
<td>UHC</td>
<td>NSQ-LLL, DESG-6300, 6398</td>
</tr>
<tr>
<td>SECTION LEAD</td>
<td>DESG-6398, SL-6400, 6401, 6498</td>
</tr>
<tr>
<td>DIVISION LEAD</td>
<td>SL-6498, DL-6500, 6501, 6598</td>
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<tr>
<td>FLIGHT LEAD</td>
<td>DL-6598, FL-6698</td>
</tr>
<tr>
<td>AMC</td>
<td>DL-6598, AMC-6798</td>
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<tr>
<td>BP</td>
<td>5100, 5101, 5102, 5103</td>
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<tr>
<td>TERFI</td>
<td>5110</td>
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<tr>
<td>WTO</td>
<td>5200, 5201, 5202, 5203, 5204</td>
</tr>
<tr>
<td>CSI</td>
<td>5300</td>
</tr>
<tr>
<td>FRSI</td>
<td>5310, 5311, 5312, 5313, 5314, 5315</td>
</tr>
<tr>
<td>FLSE*</td>
<td>5920 and IAW Flight Leadership Program Model Manager requirements</td>
</tr>
<tr>
<td>FAC(A)I*</td>
<td>5400, 5401, 5402</td>
</tr>
<tr>
<td>NSF<em>I</em></td>
<td>5600, 5601, 5602 or 5317 (if current NSI)</td>
</tr>
<tr>
<td>TAC(A)I*</td>
<td>5700</td>
</tr>
<tr>
<td>RW DACMI*</td>
<td>5800, 5802</td>
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<tr>
<td>FW DACMI*</td>
<td>5801, 5803</td>
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<tr>
<td>NSI*</td>
<td>5900, 5901, 5902, 5903, 5904, 5905</td>
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<tr>
<td>WTI*</td>
<td>Graduation from Weapons and Tactics Instructor course</td>
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<tr>
<td>ANI</td>
<td>6101 6105 given by a NATOPS Instructor and 5316 (if current FRSI)</td>
</tr>
<tr>
<td>NI</td>
<td>6106 given by a NATOPS Evaluator</td>
</tr>
<tr>
<td>NE</td>
<td>6107 given by a NATOPS Evaluator or FR S Commanding Officer</td>
</tr>
<tr>
<td>CRMF</td>
<td>6103</td>
</tr>
<tr>
<td>CFMI</td>
<td>6104</td>
</tr>
<tr>
<td>INSTRUMENT FLIGHT BOARD</td>
<td>Per Squadron Guidance and Governing Documents, 6100</td>
</tr>
</tbody>
</table>

*IAW the MAWTS-1 UH-1 Course Catalog. Certifications for FAC(A)I, TAC(A)I, RW DACMI, FW DACMI, NSI, and WTI are signed by the MAWTS-1 Commanding Officer and forwarded to squadron commanding officers. Squadron commanding officers should designate pilots who satisfactorily complete the evaluation flight(s) and have a complete ATF from the MAWTS-1 IP who evaluates the pilot.

### Tracking Code Requirements

<table>
<thead>
<tr>
<th>Tracking Codes</th>
<th>Event Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOTC-6900</td>
<td>2.75 inch Illumination Rocket Delivery</td>
</tr>
</tbody>
</table>
2.5 SYLLABUS NOTES

2.5.1 Academic Training

Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

Academic training requirements are listed separately for each Phase of flight training. Training may be completed earlier in Stage but should be completed by the appropriate sortie(s). Course descriptions are as follows:

Interactive Courseware (ICW). This is a Computer Based Training (CBT) syllabus for Core Skill Introduction training. It consists of both self-paced lessons and instructor-presented phase lectures.

Academic Support Package (ASP). These are MAWTS-1 prepared classes available on CD-ROM or the MAWTS-1 websites. All material is contained on CDs or the websites, both classified and unclassified. These can be either self-paced lessons or instructor-presented lectures. The classes listed are only the Generics, Common or Specific UH-1 classes.

Computer Based Training. These are software and/or hardware computer training aids designed to augment training for specific systems. Examples include the Naval Air Warfare Center programs for avionics systems, as well as other programs developed by various sources such as the TISP, FTS, Mission Planning Software/JMPS/AWE, EOTDA, and ASE trainers/programs.

Squadron Developed Training. Squadron-developed curriculum is used to enhance the above programs. Recognition training should be continuous.

Websites. The MAWTS-1 websites have classes, publications and other pertinent material and are included below.

NIPR: https://mceits.usmc.mil/sites/mawts1/SitePages/UH-1.aspx
SIPR: https://intelshare.intelink.sgov.gov/sites/mawts1

Click on Departments, UH-1 for general information, then select Departments, Academics, Generics, Common or Specific for WTI classified and unclassified courseware. Click on ASP for Academic Support Package courseware.

Graduate Level Courses. There are 6 graduate level courses (FAC(A)I, NSFI, TAC(A)I, DACMI, NSI, WTI) that qualify instructors for specific portions of the T&R syllabus. The requirements for these instructor certifications are contained in the MAWTS-1 Course Catalog.

External academic courses of instruction available to complete the syllabus are listed below:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival, Evasion, Resistance, and Escape (SERE) Course</td>
<td>NAS Brunswick ME, NAS North Island CA</td>
</tr>
<tr>
<td>NITE lab</td>
<td>Any Approved Course</td>
</tr>
<tr>
<td>Forward Air Controller (Airborne) Course</td>
<td>Local MATSS</td>
</tr>
<tr>
<td>Weapons and Tactics Instructor (WTI) Course</td>
<td>MAWTS-1</td>
</tr>
<tr>
<td>Aviation Career Progression Model</td>
<td>MAWTS-1</td>
</tr>
</tbody>
</table>

2.5.2 Event Requirements

General. The MAWTS-1 Course Catalog contains a summary matrix of all Ground, Academic, Simulator, and Flight requirements for each stage of the T&R. This matrix shall be placed in the Aircrew Performance Record (APR) of all aircrew to thoroughly track training progression. As each training event is completed, the PTO will input the date of completion.

All Events, to include simulators, shall begin with a comprehensive brief with emphasis on administrative
procedures, CRM, tactical procedures, mission performance standards and aircrew expectations.

All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance utilizing all evaluation techniques available (e.g. video, participating aircrews, external support personnel).

An ATF is required for any initial event completed by a Basic/Transition, Refresher, or Series Conversion pilot, or as recommended by the squadron Standardization Board. If the commanding officer has waived/deferred a syllabus sortie, the squadron training officer shall place a waiver/deferral letter in section 3 of the APR. Standardized ATFs can be obtained by the T&R sponsor, MAWTS-1.

All pilots will have an APR. The squadron training officer shall ensure each ATF is entered in section 3 of the APR.

When operational commanders assign HMLA squadrons to prolonged commitments where specific T&R training is not available (e.g., MEU deployments, sustained combat deployments), it is expected that degradation in some mission areas will occur. Commanding officers are authorized to defer training in specific missions that are not relevant to their current deployment situation. Once the squadron or detachment has returned from the deployment, every effort should be made to achieve the deferred training for the affected pilots.

Compliance with the written flight description is mandatory for syllabus event completion. In the absence of a flight simulator, completion of a syllabus event is not required to complete that stage. Completion of those events should be accomplished as soon as practical upon simulator availability. Should the command desire, simulator events can be flown in the aircraft for T&R credit.

Training should be accomplished by flying Events within a stage in sequence and stages in sequence when practical. As an example, prerequisites allow a PUI to fly events in other stages while waiting for the next HLL or LLL period.

Specific rules of conduct requirements for individual type missions (NVG training, CQ, DACM, etc.) can be found in Chapter 3 of the Aviation T&R Program Manual.

2.5.3 Event Header

Sortie Duration. Times indicated for each event are recommendations. When scheduling sorties, training officers are allowed to schedule additional training codes based on anticipated mission sets if the performance standards are met for the sortie, and sufficient time is available during the flight to accomplish those sorties (e.g. 3 hour flight scheduled to conduct two sorties with flight time requirement of 1.5 hours each). If multiple syllabus events are to be accomplished during a single flight evolution, appropriate planning, briefing, and debriefing time shall be allotted to ensure that requisite training objectives can be met.

Proficiency Interval. The proficiency Interval, more commonly called “Refly Factor”, reflect the maximum time between syllabus events. Refly factors are delineated in days. If not applicable, an asterisk (*) will be used to indicate the event has no refly interval – it is a one-time training requirement (unless R-coded).

Programs of Instruction. Delineates event requirements for specific syllabi.

Event Conditions. Refer to the following table for required event conditions:

<table>
<thead>
<tr>
<th>Code</th>
<th>Environmental Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Shall be conducted during day.</td>
</tr>
<tr>
<td>N</td>
<td>Shall be conducted at night, aided or unaided.</td>
</tr>
<tr>
<td>(N)</td>
<td>May be conducted day or night. If at night, aided or unaided.</td>
</tr>
<tr>
<td>NS</td>
<td>Shall be conducted at night aided under High Light Level or Low Light Level.</td>
</tr>
<tr>
<td>HLL</td>
<td>Shall be conducted at night aided under High Light Level conditions.</td>
</tr>
<tr>
<td>LLL</td>
<td>Shall be conducted at night aided under Low Light Level conditions.</td>
</tr>
<tr>
<td>(NS)</td>
<td>May be conducted day or night. If at night, aided under HLL or LLL.</td>
</tr>
<tr>
<td>(HLL)</td>
<td>May be conducted day or night. If at night, aided under HLL.</td>
</tr>
<tr>
<td>(LLL)</td>
<td>May be conducted day or night. If at night, aided under LLL.</td>
</tr>
<tr>
<td>N*</td>
<td>Shall be conducted at night unaided.</td>
</tr>
<tr>
<td>(N*)</td>
<td>May be conducted day or night. If at night, shall be flown unaided.</td>
</tr>
</tbody>
</table>

Device Codes. Refer to the following table for device codes:
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Event performed in aircraft</td>
</tr>
<tr>
<td>S</td>
<td>Event performed in simulator or a simulated practical application</td>
</tr>
<tr>
<td>A/S</td>
<td>Event performed in aircraft preferred/simulator optional</td>
</tr>
<tr>
<td>A/S*</td>
<td>Initial event must be performed in the aircraft. Subsequent reflys may be performed in the simulator.</td>
</tr>
<tr>
<td>S/A</td>
<td>Event performed in simulator preferred/aircraft optional</td>
</tr>
<tr>
<td>TEN</td>
<td>Tactical Environment Network</td>
</tr>
<tr>
<td>TEN +</td>
<td>Tactical Environment Network and at least one networked, man-in-the-loop simulator</td>
</tr>
<tr>
<td>G</td>
<td>Ground/academic training</td>
</tr>
<tr>
<td>GE</td>
<td>Ground Event requiring evaluation</td>
</tr>
</tbody>
</table>

Tactical Environment Network (TEN) simulator requirements are identified for each simulator event. TEN has been used to identify that the simulator must have the ability to link to the network. TEN+ has been used to identify that at least one networked, man-in-the-loop simulator is required for that event. Linked simulator events require an approved Tactical Environment Network simulation and at least one additional, networked, man-in-the-loop simulator to meet the training objectives. A moving model controlled from the operator station does not satisfy the man-in-the-loop requirement.

2.5.4 Event Body

Requirement. The requirement lists specific tasks for the event and indicates what the individual should accomplish.

Discuss. The IP shall discuss a procedure or maneuver during the brief, in flight, or debrief. The PUI is responsible for knowledge of the applicable procedures prior to the brief.

Demonstrate. The IP performs the maneuver with accompanying description. The PUI observes the maneuver and is responsible for the knowledge of the procedures prior to the sortie.

Introduce. The IP may perform the maneuver with an accompanying description, or the IP may coach the PUI through the maneuver without demonstration. The PUI shall perform the maneuver with coaching, as necessary, and is responsible for knowledge of the procedures prior to the sortie.

Practice. The PUI performs the maneuver or procedure that has been previously introduced in order to prepare for Review on a later flight. The IP should coach as required to guide the PUI’s practice.

Review. The IP observes and grades the maneuver without coaching the PUI. An airborne critique of PUI performance is at the option of the instructor. The PUI is expected to perform the maneuver without coaching and devoid of procedural error at a level acceptable to warrant progress into the next stage of training.

Evaluate. Any flight designed to evaluate aircrew standardization.

Performance Standards. Performance standards are listed for each T&R event description. These are training standards for individual aircrew performance and shall be utilized by the evaluator as a guideline to determine the satisfactory completion of each event. If the aircrew did not successfully attain the performance standards, the training code shall not be logged as a completed flight. **Logging multiple training codes on an initial single sortie shall be avoided.**

Prerequisites. Events (academic or flight/simulator) that must be completed prior to the initiation of the event. Events preceding a “~” indicate prerequisites dependent on optional conditions (e.g. environmental and ordnance). For example TERF-2102~LLL, indicates that if the event is flown under LLL conditions, TERF-2102 is a required prerequisite.

Ordnance/Range/Target/External Syllabus Support. Items required to successfully complete the required training.

Crew Requirements. The crew requirements listed at the end of each event are requirements for initial stage training flights. For operational flights the minimum crew requirements are defined by CNAFINST, NATOPS, and the Program Manual. When not clearly defined by higher directives, the squadron commanding officer, DSS, or local SOPs may dictate the minimum crew requirements.

2.5.5 Grading Standards

Complete. The PUI has demonstrated sufficient grasp of the concepts and skills to proceed to the next
training evolution or be designated appropriately.

Incomplete. Describes a training event that is not declared 'Complete' due to circumstances beyond the control of the aircrew. Examples may include, but are not limited to: WX, time constraints, aircraft or simulator maintenance, external support inadequate. 'Incomplete' shall not be used to obscure reporting of a substandard performance.

Requires Additional Training (RAT). A RAT is used when the PUI has not yet demonstrated sufficient grasp of the required skills and concepts to progress in the syllabus. A RAT is not derogatory in nature. Instructor remediation recommendations should specifically identify the deficient area(s) for addressing shortcomings in terms of reading assignments, courseware, additional flight, simulator, or other appropriate training. The Instructor assigning a RAT synopsis is responsible for ensuring the recommendation has been endorsed by Squadron leadership and adhered to by the student unless a higher authority intervenes with additional guidance.

Unsatisfactory. Identifies a condition where the PUI has proven unable to meet performance standards due to a lack of preparation, lack of effort, consistent inability to demonstrate improvement or resistance to instruction. Significant safety of flight incidents that are of a direct result of the pilot under training actions should be considered unsatisfactory. The instructor assigning this event synopsis is responsible for ensuring recommendations for remediation, if applicable, are proposed through the DSS & Operations Department.

Criteria to be graded on every ATF:
- Mission Planning/Products
- Brief/Debrief
- Checklist Use
- Communications
- Airwork
- System Proficiency
- Situational Awareness
- Headwork
- CRM
- Emergency Procedures

2.6 CORE INTRODUCTION FRS ACADEMIC PHASE (1000)

Purpose. To develop a Core Introduction complete copilot. These academics facilitate understanding of basic functions/operations in the UH-1Y and ensure individuals possess the requisite knowledge to be designated Pilot Qualified in Model (PQM), NATOPS qualified and rates the 7513/7563 MOS as specified in CIX-1901.

General. These academics are intended to be an integrated series of academic events contained within each phase of training. Accordingly, academic events serve as pre-requisites to selected flight events or stages.

Completion of these academics and flight phase meet the requirements for the PUI to be designated a PQM. Core Introduction academic events are completed by attending the appropriate HMLAT-303 Light Attack University (LAU) stage, IAW the FRS Course Catalog.

<table>
<thead>
<tr>
<th>TRAINING CODES</th>
<th>COURSEWARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACAD-1000</td>
<td>HMLAT-303 Initial LAU</td>
</tr>
<tr>
<td>ACAD-1001</td>
<td>HMLAT-303 Mid Stage LAU</td>
</tr>
<tr>
<td>ACAD-1002</td>
<td>HMLAT-303 Final LAU</td>
</tr>
</tbody>
</table>

At the completion of each ACAD Event, the appropriate training code shall be logged in M-SHARP by the individual pilot, contract instructor, or squadron operations personnel, as appropriate.

2.7 CORE INTRODUCTION PHASE (1000)

Purpose. To develop a Core Introduction complete copilot with the airmanship, CRM, systems and procedural knowledge to perform responsibilities as a competent co-pilot in any mission set and as necessary, act as PIC for non-tactical missions. Additionally, to prepare the PUI for follow on Core Skill Phase training. At the completion of this phase the PUI will be designated Pilot Qualified in Model (PQM), NATOPS qualified, and rate the 7513/7563 MOS as specified in CIX-1901.
General. Completion of this Phase meets the requirements for the PUI to be designated a PQM and NATOPS qualified at the discretion of the commanding officer. A tracking code of DESG-6300 shall be logged. The UH-1Y Model Manager shall be responsible for Core Introduction Phase standardization. Instructors shall be responsible for mission briefs. Students may conduct a mission brief only after observing the instructor brief a mission in that specific stage.

Stages. The following Stages are included in the Core Introduction Phase of training.

<table>
<thead>
<tr>
<th>STAGE</th>
<th>PARAGRAPH</th>
<th>PAGE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarization (FAM)</td>
<td>2.7.1</td>
<td>2-12</td>
</tr>
<tr>
<td>Instrument (INST)</td>
<td>2.7.2</td>
<td>2-25</td>
</tr>
<tr>
<td>Formation (FORM)</td>
<td>2.7.3</td>
<td>2-28</td>
</tr>
<tr>
<td>Terrain Flight (TERF)</td>
<td>2.7.4</td>
<td>2-30</td>
</tr>
<tr>
<td>Navigation (NAV)</td>
<td>2.7.5</td>
<td>2-32</td>
</tr>
<tr>
<td>Specific Weapons Delivery (SWD)</td>
<td>2.7.6</td>
<td>2-36</td>
</tr>
<tr>
<td>Advanced Systems Familiarization (ASF)</td>
<td>2.7.7</td>
<td>2-37</td>
</tr>
<tr>
<td>Combat Assault Transport (CAT)</td>
<td>2.7.8</td>
<td>2-39</td>
</tr>
<tr>
<td>Core Introduction Check (CIX)</td>
<td>2.7.9</td>
<td>2-41</td>
</tr>
</tbody>
</table>

2.7.1 Familiarization (FAM)

Purpose. To develop familiarity with aircraft flight characteristics, limitations, and emergency procedures during day and night operations. To develop proficiency in all maneuvers and to instill basic CRM procedures throughout the FAM Stage.

General. PUI must demonstrate proficiency with all shore based FAM procedures to include normal/emergency procedures and basic aircraft maneuvers. Additionally, the PUI must display a thorough knowledge of limitations and flight characteristics. During all stages, the PUI shall complete a weight and power form before each sortie and present it to the IP for verification.

Where seat position is optional, PUI should conduct half of the syllabus Events from each seat to facilitate proficiency from both cockpit positions. IP should discuss CRM considerations for each cockpit position during each event.

Ground/Academic Training. ACAD-1000.


Crew Requirements. As listed at the end of each Event.

FAM-1100 0.0 * B D GE 1 UH-1Y

Goal. Introduce preflight and postflight familiarization and responsibilities.

Requirements
Discuss
All demonstrate and introduce maneuvers
Demonstrate
OMA/M-SHARP functionality
ADB Review
Introduce
Weight and power computations
All preflight inspections
Postflight inspections
Emergency egress procedures

Performance Standards
The PUI shall complete an accurate weight and power computation for given conditions.
PUI shall demonstrate basic knowledge of ADB and maintenance functions.
PUI shall demonstrate a basic knowledge of preflight/postflight inspection checklist IAW UH-1Y NATOPS.

Prerequisites. 1000

Crew. FRSI/PUI

**FAM-1101** 0.0 485 B,R,SC,MR D GE 1 UH-1Y

**Goal.** Review preflight and postflight familiarization and responsibilities.

**Requirements**

**Discuss**
- Use of performance charts
- Height/Velocity diagram

**Review**
- Weight and power computations
- All preflight inspections
- Postflight inspections
- Emergency egress procedures
- OMA/M-SHARP functionality

**Performance Standards**
- PUI shall complete an accurate weight and power computation for given conditions.
- PUI shall screen and understand the function of the ADB.
- PUI shall conduct aircraft preflight and postflight inspections and identify key components IAW UH-1Y NATOPS.

Prerequisite. 1100

Crew. FRSI/PUI

**SFAM-1102** 1.5 485 B,R,SC,MR D S 1 UH-1Y

**Goal.** RS – Introduce NATOPS checklists and ground procedures.

**Requirements**

**Discuss**
- All demonstrate and introduce maneuvers
- Subsequent start checklist
- Rotor brake start
- Auxiliary Power Unit
- Warning, caution and advisory system
- NATOPS emergencies during start and shutdown
- PBA functionality
- HOCAS switchology and function

**Demonstrate**
- Basic simulator operation

**Introduce**
- Start checklist
- Cross start checklist
- Takeoff checklist
- Landing checklist
- Shutdown checklist
- Emergency shutdown
- APU fire
- Engine hot start
- Engine fire on start (external)
Performance Standards
PUI shall demonstrate functional knowledge of NATOPS checklists and procedures.
PUI shall conduct an aircraft start and shutdown.
PUI shall load a mission card with radio presets, mission list, editable and non-editable points and one route.

Prerequisites. 1101

Crew. CSI or FRSI/PUI

SFAM-1103 1.5 485 B,R,SC,MR D S 1 UH-1Y

Goal. RS – Introduce familiarization maneuvers.

Requirements
Discuss
All demonstrate and introduce maneuvers
AFCS
Environmental control system
Associated NATOPS emergencies, limitations, servicing, and checklists for briefed systems

Introduce
Low work
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
Waveoff procedures

Review
Start checklist
Takeoff checklist
Landing checklist
Shutdown checklist
Emergency shutdown

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.
PUI will conduct a normal start from the right seat.

Prerequisites. 1102

Crew. CSI or FRSI/PUI

FAM-1104 2.0 * B D A 1 UH-1Y

Goal. RS – Introduce course rules and basic familiarization maneuvers.

Requirements
Discuss
All demonstrate and introduce maneuvers
HMSD
Engine emergencies, limitations, servicing, and checklists
Prohibited Maneuvers
Hand and Arm signals
Lost plane procedures
Pressure fueling checklist  
Lost comm procedures  
Demonstrate  
Mission brief  
Introduce  
Course rules/area fam  
Low work  
Hover takeoff  
No hover takeoff  
Tactical landing profile (RVL)  
Precision (steep) approach profile  
Hover landing  
No hover landing  
Sliding landing  
Waveoff procedures  
Review  
Start checklist  
Shutdown checklist  

Performance Standards  
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.  
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.  
PUI shall complete a weight and power for conditions of the given day.  
PUI should conduct a normal start and shutdown from the right seat.  

Prerequisites.  1103, 1200, 1500  

Crew.  ANI/PUI  

**FAM-1105**  2.0  485  B,R,SC,MR  D  A  1  UH-1Y  

Goal.  RS – Introduce basic familiarization maneuvers.  

Requirements  
Discuss  
Fuel & Hydraulic emergencies, limitations, servicing, and checklists  
Ditching (power on/off)  
Airspeed limitations  
RADALT setting considerations  
CFIT mitigation with systems  
Demonstrate  
Mission brief  
Introduce  
High speed approach and landing  
SCAS Failure  
Review  
Start checklist  
Shutdown checklist  
Low work  
Hover takeoff  
No hover takeoff  
Tactical landing profile (RVL)  
Precision (steep) approach profile  
Hover landing  
No hover landing  
Sliding landing  
Waveoff procedures  

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.

PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.

PUI shall complete a weight and power for conditions of the given day.

Prerequisites: 1104

Crew. ANI/PUI

SFAM-1106 1.5 * B D S 1 UH-1Y

Goal. RS – Introduce emergency maneuvers.

Requirements

Discuss

All demonstrate and introduce maneuvers
DECU Lockout
Autorotational characteristics
Emergency Equipment
Wire Strike Protection
Energy attenuating seats
Associated NATOPS emergencies, limitations, servicing, and checklists for briefed systems

Demonstrate

Single engine flight characteristics at altitude
Autorotational characteristics at altitude

Introduce

DECU lockout
Hovering autorotations
Taxing autorotations
Full autorotations
High altitude emergencies
Straight-in autorotation
90 degree autorotation
180 degree autorotation
High speed low level autorotation
Autorotation to a spot
Loss of tail rotor thrust/components in a hover
Fixed pitch tail rotor malfunctions
Single Engine Failure

Performance Standards

PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.

PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.

PUI shall perform a minimum of five full autorotations.

Prerequisites: 1105

Crew. CSI or FRSI/PUI

SFAM-1107 1.5 * B D S 1 UH-1Y

Goal. OS – Introduce emergency procedures and CRM.

Requirements

Discuss

All demonstrate and introduce maneuvers
Landing Gear
Associated NATOPS emergencies, limitations, servicing, and checklists for briefed systems
Landing in trees

Introduce
Main drive shaft failure
Compressor Stall
Dual engine fire
Single engine fire
Engine electrical system failure
Loss of tail rotor thrust/components in a hover
Loss of tail rotor thrust/components in flight
Np overspeed
Np underspeed
Dual engine failure during takeoff
Single engine failure during takeoff
Rotor brake pressurizes in flight
Dual engine failure in a HIGE
Dual engine failure in flight
Dual engine failure at high power and airspeed
Single engine failure in a HIGE
Single engine failure in flight
Engine driven suction pump failure
Complete electrical failure

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall perform a minimum of five full autorotations.

Prerequisites
1106

Crew. CSI or FRSI/PUI (copilot mandatory and shall be 1103 complete)

FAM-1108 2.0 * B,SC D A 1 UH-1Y

Goal. RS – Introduce emergency maneuvers and review familiarization maneuvers.

Requirements
Discuss
All demonstrate and introduce maneuvers
Drive system and flight control emergencies, limitations, servicing, and checklists
Single engine characteristics and considerations
Flight control positioning on deck
Static/Dynamic rollover
Low, medium and high frequency vibrations
Demonstrate
DECU lockout
Introduce
Mission brief
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies

Review
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure

Performance Standards
PUI shall perform a mission brief.
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW
the UH-1Y NATOPS and MDG.
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.
PUI shall complete a weight and power for conditions of the given day.

Prerequisites. 1107

Crew. ANI/PUI

FAM-1109 2.0 * B D A 1 UH-1Y

Goal. LS - Review familiarization maneuvers, emergencies and local instrument procedures.

Requirements

Discuss
Fire detection, warning and extinguisher system
Electrical power and fire emergencies, limitations, servicing, and checklists

Review
Mission brief
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
Local GCA procedures

Performance Standards
PUI shall perform a mission brief.
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.
PUI shall complete a weight and power for conditions of the given day.
PUI shall conduct one precision or non-precision approach at homefield.

Prerequisites. 1108, 1202

Crew. FRSI/PUI

SFAM-1110 1.5 485 B.R,SC,MR D S 1 UH-1Y

Goal. OS – Review emergency procedures and CRM.

Requirements

Discuss
15 minutes of discussion time is for an abbreviated
NATOPS and detailed crew brief. Use remaining 15 minutes to cover EPs and critique PUI’s crew brief pertaining to emergencies and CRM.
CRM during emergency procedures

Review
DECU lockout
Main drive shaft failure
Compressor Stall
Dual engine fire
Single engine fire
Engine electrical system failure
Loss of tail rotor thrust/components in a hover
Np overspeed
Np underspeed
Dual engine failure during takeoff
Single engine failure during takeoff
Rotor brake pressurizes in flight
Dual engine failure in a HIGE
Dual engine failure in flight
Dual engine failure at high power and airspeed
Single engine failure in a HOGE
Single engine failure in flight
Engine driven suction pump failure

Performance Standards
PUI shall conduct NATOPS CRM brief. Sortie shall be used to review EPs and CRM while outside the local pattern during basic VFR flight.
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.
PUI shall perform a minimum of five full autorotations.

Prerequisites. 1109

Crew. CSI or FRSI/PUI (copilot mandatory and shall be 1107 complete)

FAM-1111 1.5 * B D A 1 UH-1Y

Goal. RS - Review familiarization maneuvers, emergencies and local instrument procedures.

Requirements
Discuss
Review
Mission brief
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
Local GCA procedures

Performance Standards
PUI shall conduct mission brief.
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS
PUI shall load a mission card with radio presets, mission list, editable and non-editable points, vector overlay of appropriate local ranges or other restricted areas and one route.
PUI shall complete a weight and power for conditions of the given day.
PUI shall conduct one precision or non-precision approach at homefield.

Prerequisites. 1110
Goal. OS - Review emergency procedures and CRM.

Requirements
Discuss
15 minutes of discussion time is for an abbreviated NATOPS and detailed crew brief. Use
remaining 15 minutes to cover EPs and critique PUI’s crew brief pertaining to emergencies and
CRM.
Any previously introduced NATOPS/MDG, system, emergency, limitation, procedure or
checklist.

Review
Mission brief
Aircraft emergencies with emphasis on causes, indications and procedures to recover aircraft and
CRM.

Performance Standards
PUI shall conduct NATOPS CRM brief. Sortie shall be used to review EPs and CRM while outside the
local pattern during basic VFR flight.
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI will demonstrate knowledge, safety and CRM considerations during the execution of emergency
procedures.
PUI shall perform a minimum of five full autorotations.

Prerequisites. 1111
Crew. CSI or FRSI/PUI (copilot mandatory and shall be 1107 complete)

Goal. RS - Review emergency procedures and evaluate familiarization maneuvers.

Requirements
Discuss
Any previously introduced NATOPS/MDG system, emergency, limitation, procedure or checklist
Engine wash procedures

Introduce
DECU lockout
SWD profiles

Review
Mission brief
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
Local GCA procedures

Performance Standards
PUI shall perform a mission brief.
PUI shall demonstrate the CRM, systems and procedural knowledge and stage specific flight skills to safely
execute all FAM stage maneuvers and handle simulated emergencies IAW the UH-1Y NATOPS and
MDG.
As the local flying area allows, mission profile should include operations at the departure airfield, at local
training facilities and OLFs and incorporating local course rules.
PUI shall conduct one precision or non-precision approach at homefield.

Prerequisites. 1112

Crew. ANI/PUI

FAM-1114 2.0 485 B,R,SC,MR D A 1 UH-1Y

Goal. OS – Evaluate Pilot Qualified in Model (PQM) responsibilities.

Requirements

Discuss
Responsibilities of the Pilot Qualified in Model IAW CNAF 3710.7
Any aircraft system, limit, EP or MDG procedure

Review
Mission brief
OMA/M-SHARP functionality
FAM maneuvers
IFR operations and procedures
VFR operations and procedures
Navigation
Simulated emergencies
Inflight contingencies

Performance Standards
PUI shall act as PIC and IP shall act as peer-level co-pilot. PUI shall plan, brief and lead the flight based
on an assigned mission profile and IP guidance.
Mission profile shall focus on the tasks related to ferry/cross country flights and shall incorporate VFR and
IFR components. Mission profile should include operations at controlled and uncontrolled airports and
where possible, exposure to land as soon as possible and land as soon as practical emergencies away from
homefield.
PUI shall demonstrate a detailed understanding and functional knowledge of single ship operations IAW
the UH-1Y NATOPS and MDG.
PUI shall demonstrate the ability to safely execute any previously introduced procedure, maneuver or
emergency.
If R,SC,MR event, PUI should use available time to review instrument navigation procedures and build
annual instrument minimums.

Prerequisites. 1113, 1203, 1400, 1503, 1801

Crew. ANI/PUI

FAM-1115 2.0 485 B,R,SC,MR D A 1 UH-1Y

Goal. OS – Introduce aircraft energy managment.

Requirements

Discuss
All demonstrate and introduce items
Performance charts
Autorotations
Single engine power and flight characteristics
High, hot & heavy operations
E-M Diagram (Ps)
Demonstrate
Autorotational characteristics at altitude
High angle of bank
Collective control interference
Introduce
Power limited (sliding) takeoff
Max power takeoff
Brownout landings
High altitude landings

Review
SWD profiles
DECU lockout

Performance Standards
IP shall demonstrate aircraft energy management as it relates to performance and emergency situations.
PUI shall complete a simulated weight and power for conditions of high, hot and heavy operations, as dictated by IP.
PUI shall have a detailed understanding of demonstrate and introduce maneuvers.
If R,SC,MR event, PUI shall be introduced to and perform TERF maneuvers.
If R,SC,MR event, PUI should use available time to review instrument navigation procedures and build annual instrument minimums.

Prerequisites. 1114
Crew. ANI/PUI

SFAM-1116  1.5  *  B,SC  NS  S  1  UH-1Y

Goal. RS - Introduce NVD familiarization maneuvers during HLL.

Requirements
Discuss
All demonstrate and introduce maneuvers
NDM setup/operation
Aircraft lighting and switchology

Demonstrate
NVD portion of NATOPS brief

Introduce
Low work
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SWD profiles
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions

Performance Standards
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and NVD manual.
PUI shall load a mission card with radio presets, a mission list, editable waypoints for local course rules, non-editable waypoints as appropriate and a vector overlay of appropriate local ranges or other restricted areas.

Prerequisites. 1113
Crew. CSI or NSFI/PUI

SFAM-1117  1.5  *  B  NS  S  1  UH-1Y

Goal. RS - Introduce NVD emergency maneuvers during HLL.

Requirements
Discuss
All demonstrate and introduce maneuvers
NVD emergencies
IIMC in NVD environment
Electrical failure at night

Introduce
Hovering Autorotations
Taxiing Autorotations
Full autorotations
High altitude emergencies
Straight-in autorotation
90 degree autorotation
180 degree autorotation
High speed low level autorotation
Autorotation to a spot

Review
Low work
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions

Performance Standards
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and NVD manual.
PUI shall load a mission card with radio presets, a mission list, editable waypoints for local course rules, non-editable waypoints as appropriate and a vector overlay of appropriate local ranges or other restricted areas.
PUI shall perform a minimum of five full autorotations.

Prerequisites 1116

Crew  CSI or NSFI/PUI

FAM-1118  2.0  *  B    NS  A  1  UH-1Y

Goal  RS – Introduce NVD familiarization maneuvers and emergencies during HLL.

Requirements
Discuss
All demonstrate and introduce maneuvers
Solar Lunar Almanac Prediction (SLAP)
Sources of illumination at night
Light levels
Crew day/crew rest requirements at night
CRM at night
Use of searchlight at night
Required equipment and cockpit setup for night flights
NVD scan pattern
NVG Components and operation
NDM preflight/focus procedures
NDM boresight/brightness/declutter

Demonstrate
NVD portion of NATOPS brief

Introduce
Low work
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SWD profiles
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies

Performance Standards
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and NVD manual.
PUI shall load a mission card with radio presets, a mission list, editable waypoints for local course rules, non-editable waypoints as appropriate and a vector overlay of appropriate local ranges or other restricted areas.
PUI shall complete an accurate weight and power computation for given conditions.
PUI shall bring appropriate SLAP data to the brief, to include Lunar Elevation/Azimuth Angles (LEAA) and Lunar Daily Illumination (LDI) charts.

Prerequisites
Crew. NSFI/PUI/CC/AO

Goal. RS – Review NVD familiarization maneuvers and emergencies during HLL.

Requirements
Discuss
Automatic Brightness Control
Bright Source Protection
NVD Scene
NVD comfort level
NVD shadowing
RADALT setting considerations

Review
NVD portion of NATOPS brief
Low work
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SWD profiles
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies

Performance Standards
PUI shall perform a mission brief.
PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and NVD manual.
PUI shall load a mission card with radio presets, a mission list, editable waypoints for local course rules, non-editable waypoints as appropriate and a vector overlay of appropriate local ranges or other restricted areas.
PUI shall complete an accurate weight and power computation for given conditions.
PUI shall bring appropriate SLAP data to the brief, to include Lunar Elevation/Azimuth Angles (LEAA) and Lunar Daily Illumination (LDI) charts.

Prerequisites.  1118

Crew.  NSFI/PUI/CC/AO

2.7.2 Instruments (INST)

Purpose. To develop proficiency in actual/simulated IMC. To develop the PUI’s stage specific flight skills, systems and procedural knowledge and CRM to safely act as PIC during enroute and terminal operations under IFR and in IMC.

General.  SINST-1204 should be flown at the completion of the Core Introduction Phase and serve as the annual instrument evaluation, if annual minimums are met. A 6100 tracking code shall be logged at the completion of SINST-1204 if conducting an annual instrument evaluation.

Crew Requirements.  As listed at the end of each event.

Ground/Academic Training.  Instrument CBT/ICW.  Instrument Ground School (as applicable).


SINST-1200  1.5  *  B  (N*)  S  1  UH-1Y

Goal.  OS - Introduce basic instrument flight maneuvers.

Requirements

Discuss
All demonstrate and introduce maneuvers
Standard rate indications
Spatial disorientation

Introduce
Instrument flight checklist
Instrument takeoff (ITO)
Level speed change
Standard rate turns
Vertical S-1 pattern
Turn pattern
Oscar pattern
Timed turns using the DFD standby compass
Recovery from unusual attitudes

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.

Prerequisites.  1101

Crew.  CSI or FRSI/PUI

SINST-1201  1.5  *  B  (N*)  S  1  UH-1Y

Goal.  OS – Introduce instrument flight navigation procedures.

Requirements

Discuss
All demonstrate and introduce maneuvers
NERP
Navigation System Integration
AFCS in instrument flight
Initial Approach Fix (IAF)
Final Approach Fix (FAF)
Minimum Descent Altitude (MDA)
Voice reports
Lost communications procedures
DD-175 filing criteria and procedures
Weather briefing requirements

Introduce
Standard Instrument Departures (SIDs)
Airway Navigation
TACAN intercepts
TACAN point to point navigation
TACAN holding
TACAN arcing
TACAN approach
Precision approach (PAR)
Airport Surveillance Radar (ASR)
Use of AFCS in instrument flight
Missed approach
No-Gyro approach
Instrument autorotation

Review
Instrument flight checklist

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall load a mission card with appropriate instrument fixes/ATC reporting points as waypoints, a vector overlay indicating final approach course and appropriate ATC frequencies.

Prerequisites. 1200

Crew. CSI or FRSI/PUI

Goal. OS – Review basic instrument flight maneuvers in local controlled airspace.

Requirements
Discuss
All demonstrate and introduce maneuvers
Communications system
Windshield wiper system
Anti-ice system
Pitot Heat System
Associated NATOPS emergencies, limitations, servicing, and checklists for briefed systems
VMC to IMC & IMC to VMC transitions
In flight filing procedures
GCA airspace & requirements
NAVAID failures

Review
Instrument flight checklist
Instrument takeoff (ITO)
Level speed change
Standard rate turns
Vertical S-1 pattern
Turn pattern
Oscar pattern
Timed turns using the DFD standby compass
TACAN approach
Precision approach (PAR)
Airport Surveillance Radar (ASR)
Use of AFCS in instrument flight

Performance Standards
PUI to conduct procedures and maneuvers IAW the UH-1Y NATOPS and MDG. PUI shall load a mission card with appropriate instrument fixes/ATC reporting points as waypoints, a vector overlay indicating final approach course and appropriate ATC frequencies. PUI shall complete an accurate weight and power computation for given conditions.

**Prerequisites.** 1104, 1201

**Crew.** FRSI/PUI

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<th>B</th>
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**Goal.** OS – Review instrument flight navigation procedures.

**Requirements**

**Discuss**
- All demonstrate and introduce maneuvers
- Instrument flight publications
- Airspace classification
- Cloud clearance and visibility requirements
- Lost communications procedures
- DD-175 filing criteria and procedures
- Weather briefing requirements
- Navigation system integration

**Review**
- Standard Instrument Departures (SIDs)
- Airway navigation
- TACAN approach
- Precision approach (PAR)
- Airport Surveillance Radar (ASR)
- No-gyro approach
- Missed approach
- Use of AFCS in instrument flight

**Performance Standards**
- PUI to conduct procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
- PUI shall load a mission card with appropriate instrument fixes/ATC reporting points as waypoints, a vector overlay indicating final approach course and appropriate ATC frequencies.
- PUI shall file the DD-175.
- PUI shall complete an accurate weight and power computation for given conditions.
- Event shall be flown outside of local airspace.
- Event should be flown in conjunction with 1503 (out/in or cross country flight) to the max extent practical.

**Prerequisites.** 1113, 1202

**Crew.** FRSI/PUI

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**Goal.** OS – Evaluate instrument flight and emergency procedures under IFR in IMC.

**Requirements**

**Discuss**
- Any previously introduced INST stage item
- Annual and semi-annual instrument and approach minimums

**Review**
- Standard Instrument Departures (SIDs)
- TACAN procedures
- Precision approach (PAR)
- Airport Surveillance Radar (ASR)
- No-Gyro approach
- Missed approach
- Airway navigation
- Use of AFCS in instrument flight
- Emergencies in IMC
Performance Standards
PUI shall load a mission card with appropriate instrument fixes/ATC reporting points as waypoints, a vector overlay indicating final approach course and appropriate ATC frequencies.
PUI shall demonstrate a detailed understanding and functional knowledge of all instrument procedures, emergencies, aircraft systems and maneuvers IAW the NATOPS IFM, UH-1Y NATOPS, MDG and CNAF 3710.
PUI shall conduct an annual instrument evaluation IAW CNAF M-3710.7 (if applicable).

Prerequisite.  1203

Crew.  CSI or FRSI (IFBM as required)/PUI

2.7.3 Forma( FORM)

Purpose.  To introduce formation flight and develop proficiency in parade and tactical formation maneuvers. To develop the PUI’s stage specific flight skills, systems and procedural knowledge and CRM to safely act as PIC as a designated wingman during nontactical flights.

General.  At the completion of this stage, the PUI will be proficient at formation takeoffs and landings, rendezvous, parade, cruise, and all formation maneuvers listed in the UH-1Y NATOPS and MDG. PUI will have introductory knowledge of ASTACSOP section contingencies and tactical formation maneuvers.

Crew Requirements.  As listed at the end of each event.

Ground/Academic Training.  ACAD-1001

References.  Maneuver Description Guide, NATOPS manual, NVD manual, ASTACSOP and NTTP.

FORM-1300  2.0  *  B  D  A  2  UH-1Y

Goal.  OS – Introduce formation flight.

Requirements

Discuss
All demonstrate and introduce maneuvers
CRM during FORM flight
FORM maneuver card
Cruise turn principles
ASTACSOP items

Demonstrate
Section tactical landings
ASTACSOP RIO
ASTACSOP lost comm
ASTACSOP IIMC
ASTACSOP loss of visual contact

Introduce
Parade flight
Parade turns
Crossovers
Breakup and rendezvous
Cruise turns
Tactical formation maneuvers
Formation takeoff
Formation landing
Wingman awareness
Formation communication
Lead change

Performance Standards
PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
PUI shall load a mission card with a vector overlay of a formation working area.
PUI shall complete an accurate weight and power computation for given conditions.
PUI shall perform all MDG formation maneuvers as lead and wingman.
A minimum of 2 section landings will be accomplished as lead and as wingman.

**Prerequisites.** 1001, 1115

**Crew.** FRSI/PUI

**FORM-1301**  2.0  730  B,R  D  A  2  UH-1Y

**Goal.** OS - Introduce section landings.

**Requirements**

**Discuss**
- All demonstrate and introduce maneuvers
- Break (homefield, FARP, ship)
- ASTAC SOP items
- NTTP HA/BP mechanics
- IP to LZ timing
- Section landings
- Cruise turn principles
- Wingman awareness

**Introduce**
- HA/BP mechanics
- IP to LZ timing
- Section tactical landings
- ASTAC SOP RIO
- ASTAC SOP lost comm
- ASTAC SOP IIMC
- ASTAC SOP loss of visual contact

**Review**
- Parade flight
- Cruise flight
- Breakup and rendezvous
- Tactical formation maneuvers
- Wingman awareness
- Formation communication
- Lead change

**Performance Standards**
- PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, ASTAC SOP and MDG.
- PUI shall load a mission card with a vector overlay of a formation working area.
- PUI shall complete an accurate weight and power computation for given conditions.
- PUI shall demonstrate ability to safely hold in cruise formation while confined to HA/BP as wingman.
- PUI shall conduct a minimum of 5 section landings as lead and 5 section landings as wingman.

**Prerequisites.** 1300

**Crew.** FRSI/PUI

**FORM-1302**  2.0  485  B,R,MR  NS  A  2  UH-1Y

**Goal.** OS - Introduce NVD formation flight, demonstrate tactical formation flight maneuvering, and NVD section landings.

**Requirements**

**Discuss**
- All demonstrate and introduce maneuvers
- ASTAC SOP aircraft lighting
- ASTAC SOP goggle/degoggle procedures
- ASTAC SOP loss of visual contact at night
- NVD formation flight techniques
- CRM during NVD formation flight
- H-1 NVD formation related mishaps
Demonstrate
  Tactical formation maneuvers
  Aircraft lighting configurations
Introduce
  Parade flight
  Parade turns
  Crossovers
  Breakup and rendezvous
  Cruise turns
  Formation takeoff
  Formation landing
  Wingman awareness
  Formation communication
  Lead change
  Section tactical landings

Performance Standards
  PUI shall conduct all procedures and maneuvers IAW the UH-1Y NATOPS, MDG, ASTAC SOP, NTTP and MAWTS-1 NVD manual.
  PUI shall load a mission card with a vector overlay of a formation working area.
  PUI shall complete an accurate weight and power computation for given conditions.
  PUI shall bring appropriate SLAP data to the brief, to include Lunar Elevation/Azimuth Angles (LEAA) and Lunar Daily Illumination (LDI) charts.
  A minimum of 2 section landings will be accomplished as lead and as wingman.

Prerequisite.  1300, 1802

Crew.  NSI or NSFI/PUI/CC/AO

2.7.4 Terrain Flight (TERF)

Purpose.  To introduce low level, contour and NOE modes of TERF flight and develop proficiency in the application of TERF procedures. To develop the PUI’s stage specific flight skills, systems and procedural knowledge, and CRM and prepare the PUI for Core Skill Phase TERF training.

General.  PUI will demonstrate an understanding of the TERF modes (low level, contour, and NOE) and proficiency in low level, contour and NOE flight maneuvers. TERF-1401 should be scheduled as a section in authorized TERF area to increase formation flight proficiency. If weather and/or maintenance does not allow, degradation to MIKE TERF area is authorized to complete the event.

Crew Requirements.  As listed at the end of each event.

Ground/Academic Training.  ACAD-1000.

References.  Maneuver Description Guide, NATOPS manual, NVD manual and NTTP.

TERF-1400  2.0  *  B  D  A  1  UH-1Y

Goal.  OS - Introduce TERF maneuvers, TERF navigation, and external operations.

Requirements

Discuss
  All demonstrate and introduce maneuvers
  Engine failures in TERF environment
  Engine failures with an external load
  IIMC in TERF environment
  Hook/hoist capabilities & limitations
  Aircrew coordination for TERF & externals
  Load jettison
  Loss of tail rotor effectiveness

Demonstrate
  TERF portion of NATOPS brief
  Loss of tail rotor effectiveness
Introduce
- Low level flight
- Contour flight
- Nap of Earth (NOE)
- Power checks
- NOE takeoff
- NOE approach
- NOE quickstop
- Masking and unmasking
- Bunt
- Roll
- Turns
- TERF navigation
- Proper procedures for external and hoist operations

**Performance Standards**
- PUI shall have a working knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
- PUI shall load a mission card with a mission list, a vector overlay of the route, and set up terrain banding.
- PUI shall complete an accurate weight and power computation for given conditions.
- PUI shall conduct the route brief and navigate an approved TERF route with a minimum of 5 checkpoints.
- PUI shall conduct external operations IAW the UH-1Y NATOPS and MDG.

**Prerequisites.** 1503, 1800

**External Syllabus Support.** Authorized TERF area, external weight, and HST if available

**Crew.** FRSI/PUI/CC/AS

**TERF-1401** 2.0  * B  NS  A  2  1 UH-1Y & 1 H-1

**Goal.** OS - Introduce NVD TERF maneuvers and TERF navigation.

**Requirements**
- Discuss
  - All demonstrate and introduce maneuvers
  - NVD considerations in the TERF environment
  - High to low bird swap
  - Lost communication procedures
  - CFIT mitigation with systems
- Demonstrate
  - Loss of tail rotor effectiveness
- Introduce
  - Low level flight
  - Contour flight
  - Nap of Earth (NOE)
  - Power checks
  - NOE takeoff
  - NOE approach
  - Masking and unmasking
  - Bunt
  - Roll
  - Turns
  - TERF navigation
- Review
  - Additional FORM sustainment as required
  - Additional FAM sustainment as required
  - TERF and NVD portions of the NATOPS brief

**Performance Standards**
- PUI shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and NVD manual.
- PUI shall load a mission card with a mission list, a vector overlay of the route and set up terrain banding.
- PUI shall complete an accurate weight and balance computation for given conditions.
PUI shall bring appropriate SLAP data to the brief, to include Lunar Elevation/Azimuth Angles (LEAA) and Lunar Daily Illumination (LDI) charts.

PUI shall conduct the route brief and navigate an approved TERF route with a minimum of 5 checkpoints.

Prerequisite. 1118, 1302, 1400

External Syllabus Support. Authorized TERF area

Crew. NSI or NSFI/PUI/CC/AO

2.7.5 Navigation (NAV)

Purpose. To develop the ability to conduct day/night navigation. NAV stage proficiency will be evaluated as part of CIX-1901.

General. PUI must demonstrate the ability to navigate preplanned routes and identify positions using both charts/maps and mission planning software/moving map display. NAV-1504 should be scheduled as a section to increase formation flight proficiency. If weather and/or maintenance does not allow, degradation to single ship is authorized to complete the event.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. ACAD-1000.

References. Maneuver Description Guide, NATOPS manual, ASTACSOP, NVD manual and NTTP.

SNAV-1500 0.0 485 B,R,SC,MR (N) S 1 UH-1Y

Goal. OS – Introduce digital map system (DMS).

Requirements

Discuss
All demonstrate and introduce maneuvers
Editable and non-editable points
HMSD cueing integration
Map page scales
Data frames
Map orientation on MAP page

Demonstrate
STATUS page operation

Introduce
DFD functions
Vector overlays
Mission card loading
Loading mission card into the aircraft
MAP page orientation
Storing waypoints or targets
Direct-To function
Overlay creation and selection
Terrain banding
AUTO and MAN route builds
PTA, ETA and CGS

Performance Standards
PUI will have a detailed understanding and functional knowledge of the DMS IAW the UH-1Y NATOPS.
PUI shall load a mission card with communications, including a mission list, a route, editable and non-editable waypoints, targets and a vector overlay.
PUI will create a route using the MAN and AUTO build functions.

Prerequisites. 1102

Crew. CSI or FRSI/PUI

SNAV-1501 0.0 * B,SC (N) S 1 UH-1Y
Goal. OS – Introduce the NTIS.

Requirements

Discuss
- All demonstrate and introduce maneuvers
- NTIS components
- NTIS track modes
- NTIS LASER pointer modes
- NTIS environmental considerations
- Non-uniformity correction (NUC) procedures
- Fault Isolation Test (FIT) procedures
- Pre-point, Inertial point, heading hold, and geopoint
- Auto and enhanced gain

Introduce
- NTIS page operation
- NTIS Hand Control Unit functionality
- Storing a waypoint/target using the NTIS

Performance Standards
- PUI shall have a detailed understanding and functional knowledge of the NTIS IAW UH-1Y NATOPS and Brite Star Block II Ops Manual.

Prerequisites. 1500

Crew. CSI or FRSI/PUI

Goal. OS – Introduce flight navigation.

Requirements

Discuss
- Checkpoint identification using the NTIS
- Planned time of arrival and command ground speed
- In-flight fuel calculations
- Checkpoint selection

Review
- Mission card loading
- MAP page orientation
- Storing waypoints or targets
- Direct-To function
- Overlay creation and selection
- Terrain banding
- AUTO and MAN route builds
- EGI needle utilization
- PTA, ETA and CGS

Performance Standards
- PUI will have a detailed understanding and functional knowledge of the DMS and FLIR IAW the UH-1Y NATOPS and Brite Star Block II Ops Manual.
- PUI shall load a mission card consisting of both editable and non-editable waypoints, communication load, mission list and one route.
- PUI will adjust at minimum two route points in MAN build and two route points in AUTO build.
- PUI will use the mission card STORE function and conduct post flight debrief with new and adjusted routes.

Prerequisites. 1112, 1500, 1501

Crew. CSI or FRSI/PUI

Goal. OS – Introduce flight navigation.

NAV-1503  2.0  730  B.R  D  A  1  UH-1Y

Goal. OS – Introduce flight navigation.
Requirements

Discuss
- Map preparation of both the 1:250,000 Joint Operation Graphic (JOG) and 1:50,000 paper maps
- Map datum
- Flight plans vs. routes
- Checkpoint selection
- CRM, lookout doctrine and obstacle/hazard avoidance
- Route briefing techniques
- NAV and NTIS integration
- ASTACSO navigation procedures and Magellan standards
- Bingo and joker planning considerations
- In-flight fuel calculations/planning

Introduce
- DVR functionality

Review
- Mission card loading
- MAP page orientation
- Storing waypoints or targets
- Direct-To function
- Checkpoint identification using the NTIS
- Overlay creation and selection
- Terrain banding
- AUTO and MAN route builds
- EGI needle utilization
- PTA, ETA and CGS
- NERP use
- Additional FAM sustainment as required

Performance Standards
- PUI will have a detailed understanding and functional knowledge of the DMS and FLIR IAW the UH-1Y NATOPS and Brite Star Block II Ops Manual.
- PUI shall load a mission card consisting of both editable and non-editable waypoints, communication load, mission list and one route.
- PUI will adjust, at minimum, two route points in MAN build and two route points in AUTO build.
- PUI will use the mission card STORE function and conduct post flight debrief with new and adjusted routes.
- PUI shall complete an accurate weight and power computation for given conditions.
- PUI shall plan and navigate a route of at least 5 checkpoints outside of local airspace.
- Event should be flown in conjunction with 1203 (out/in or cross country flight) to the max extent practical.

Prerequisites. 1113, 1502

Crew. FRSI/PUI/CC

NAV-1504 2.0 * B NS A 1 UH-1Y

Goal. OS – Introduce NVD navigation.

Requirements

Discuss
- Night navigation considerations
- Route briefing techniques
- Section CRM

Review
- Mission card loading
- MAP page orientation
- Storing waypoints or targets
- Direct-To function
- Checkpoint identification using the NTIS
- Overlay creation and selection
- Terrain banding
- AUTO and MAN route builds
- EGI needle utilization
PTA, ETA and CGS
Additional FORM sustainment as required
Additional FAM sustainment as required

Performance Standards
PUI will have a detailed understanding and functional knowledge of the DMS and TSS IAW the UH-1Y
NATOPS and Brite Star Block II Ops Manual.
PUI shall load a mission card consisting of both editable and non-editable waypoints, communication load,
mission list and one route.
PUI will adjust, at minimum, two route points in MAN build and two route points in AUTO build.
PUI will use the mission card STORE function and conduct post flight debrief with new and adjusted
routes.
Plan and navigate a route of at least 5 checkpoints outside of local airspace.
PUI shall bring appropriate SLAP data to the brief, to include Lunar Elevation/Azimuth Angles (LEAA)
and Lunar Daily Illumination (LDI) charts.
PUI shall complete an accurate weight and power computation for given conditions.

Prerequisites. 1118, 1302, 1503

Crew. NSI or NSFI/PUI/CC/AO

2.7.6 Specific Weapons Delivery (SWD)

Purpose. To develop the ability to deliver air-to-ground weapons employing all available sensors and weapons
systems.

General. At the completion of this Stage, PUI will demonstrate familiarity with all ordnance delivery methods.

The SWD Stage shall focus on teaching the PUI proper weapons delivery switchology, CRM, techniques,
and flight profiles. At the completion of the Stage, the PUI should be able to perform prescribed weapons delivery
demonstrating correct switchology and release profiles. Focus should be on weapons delivery profiles and ordnance
accuracy, not tactical scenarios. DVR debrief should be used to the maximum extent possible.

IPs shall evaluate ordnance effectiveness based on the following accuracy metrics.

<table>
<thead>
<tr>
<th>CORE SKILL INTRODUCTION</th>
<th>UNGUIDED ROCKET STANDARD</th>
<th>GUN STANDARD</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>400m*</td>
<td>In correct profile per NTTP</td>
<td>On target within 5 seconds of trigger pull</td>
<td>Based upon rocket Min Safe Distances (MSDs)***</td>
</tr>
<tr>
<td>200m*</td>
<td>No miss greater than 400 meters</td>
<td>-</td>
<td>-Qualifies PUI to deliver rockets during CAS training events</td>
</tr>
<tr>
<td>-CE90&lt;200 meters**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Radius

** CE90 example: SWD-1602 requires (7) 2.75” rockets. CE90<200 meters requires that 90% of the delivered
rockets impact within 200 meters of the target. In order to calculate, simply disregard the worst 10% of rockets
released and the remaining farthest SINGLE MISS DISTANCE = CE90. Conservative rounding is applied.

Examples:
• 3-10 rockets released ~ disregard one rocket, SECOND FARTHEST MISS = CE90
• 11-20 rockets released ~ disregard two rockets, THIRD FARTHEST MISS = CE90
• In no case can a single rocket miss the intended target by more than 400m, including the omitted rounds for
CE90 calculation.

*** Minimum Safe Distances (MSDs) are based upon ALSA assumptions, which consider (among other factors)
warhead fragmentation patterns and delivery accuracy. HE rocket delivery profiles outside of the NTTP Weapons
Release Envelope will invalidate the MSDs listed in JFIRE, and will increase risk to ground personnel during CAS
training events.

Crew Requirements. As listed at the end of each event.
Ground/Academic Training: ACAD-1001.

References. Maneuver Description Guide, NATOPS manual, NTTP and NTRP.

SSWD-1600 1.5 485 B,R,SC,MR D S 1 UH-1Y

Goal. OS – Introduce ordnance checklists, weapons systems and setup and specific weapons delivery to include Fixed Forward GAU-17 delivery.

Requirements

Discuss
- All demonstrate and introduce maneuvers
- CRM during ordnance delivery
- Visual/Contact/Tally
- Ordnance checklists
- WPN page setup
- Emergency procedures
- HMSD boresight procedures/symbology sets

Introduce
- Required switchology
- Ordnance checklists
- LASER system function
- WPN page setup
- TDC page setup
- Standard delivery patterns (running, diving, and fixed forward GAU-17) during ordnance evolutions

Performance Standards

PUI shall have a detailed understanding and functional knowledge of weapons systems and checklists IAW the UH-1Y NATOPS, MDG and UH-1 NTTP.
PUI shall load a mission card with ingress and egress routes, vector overlay of the objective area to include range fan (final attack headings) and distances from target and weapons setup.
PUI will utilize LASER rangefinder and laser designator to derive grids and store targets.
PUI shall employ the GAU-17 Fixed Forward.

Prerequisites. 1001, 1115

Crew. CSI or FRSI/PUI

SSWD-1601 1.5 * B D A 1 UH-1Y

Goal. OS - Introduce crew served weapons delivery.

Requirements

Discuss
- Weapons preflight
- Loading, arming, de-arming, safing and jettison procedures
- Switchology
- Communications during SWD
- Attack profiles
- Rapid g-onset
- Fence in/out procedures
- DDM boresight procedures
- Gun limitations
- Range regulations
- Final Attack Headings
- Minimum Safe Distance (MSD)
- Risk Estimate Distance (RED)

Demonstrate
- Ordnance portion of the NATOPS brief

Introduce
- Crew served weapons live fire ordnance training with particular emphasis on standardization, CRM and weapons delivery accuracy

2-36
Medium and low altitude simulated unguided rocket delivery
Range safety considerations

Review
ASTACSOP RIO

Performance Standards
PUI shall have a detailed understanding and functional knowledge of weapons systems and checklists IAW the UH-1Y NATOPS, MDG and UH-1 NTTP.
PUI shall load a mission card with ingress and egress routes and a vector overlay of the objective area.
PUI will utilize LASER rangefinder to derive grids and store targets.

Prerequisites. 1300, 1600

Ordnance. Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side] (600) 7.62mm M240 per side

Range Requirement. Live fire LASER safe range

Crew. FRSI/PUI/CC/AO

SWD-1602 1.5 730 B,R,SC D A 1 UH-1Y

Goal. OS – Review weapons systems and introduce unguided rocket delivery.

Requirements
Discuss
All 2.75” rocket warheads/fuzes
Use of DMS/FLIR for target identification and LASER employment
Target fixation
Unguided weapons delivery considerations and weapons delivery ballistics
Alternate sighting procedures
Visual/contact/tally

Introduce
Live fire ordnance training with particular emphasis on standardization, CRM and weapons delivery accuracy

Review
Crew served weapons live fire ordnance training
Range safety considerations
ASTACSOP RIO

Performance Standards
PUI shall have a detailed understanding and functional knowledge of weapons systems and checklists IAW the UH-1Y NATOPS, MDG and UH-1 NTTP.
PUI shall load a mission card with ingress and egress route and a vector overlay of the objective area.
PUI shall demonstrate core intro accuracy metric while adhering to all range regulations.

Prerequisites. 1601

Ordnance. (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side] (600) 7.62mm M240 per side

Range requirement. Live fire LASER safe range

Crew. FRSI/PUI/CC/AO

2.7.7 Advanced Systems Familiarization (ASF)

Purpose. To introduce offensive/defensive electronic and infrared countermeasures, Aircraft Survivability Equipment (ASE), and Advanced Precision Kill Weapon System (APKWS). To review NTIS operation.

General. At the completion of this stage, the PUI will be proficient at setup of all aircraft survivability equipment and be exposed to threat indications and APKWS setup. PUI will be proficient at NTIS HCU functionality and gain proficiency in NTIS operations.
Crew Requirements. As listed at the end of each event.

Ground/Academic Training. ACAD-1001.


Goal. OS - Introduce ASE functionality and APKWS setup.

Discuss
- One hour allotted to discussion items and one hour allotted to systems exposure
- ASE suite operation (NATOPS checklists, visual displays and audio messages for power on/BIT)
- Expendables general purpose
- AAR-47, APR-39, and ALE-47 general purpose
- Displays, controls, detectors and other components
- Visual and audio threat information
- Automatic and manual threat reaction capabilities & operation
- APR-39, AAR-47 and ALE-47 integration
- System modes of operation
- BIT, maintenance BIT and failure messages
- Dispense switch function
- APKWS DFD switchology
- APKWS HMSD symbology
- APKWS modes of employment

Demonstrate
- RADAR search, acquire, track and launch visual/audio indications
- APKWS modes of employment

Introduce
- ASE suite power on, BIT, settings and power off per NATOPS and TPG checklists
- ASE suite cockpit control switchology and related display information (EW page setup)
- Inventory reset
- CLOS

Review
- NTIS page operation
- NTIS Hand Control Unit functionality
- Storing a waypoint/target using the NTIS

Performance Standards
- Successfully operate (energize and BIT) and troubleshoot APR-39, AAR-47 and ALE-47 systems.
- Observe various threat system indications.
- Observe APKWS modes of employment.

Prerequisites. 1001, 1115

Crew. FRSI (pri) or CSI (alt)/PUI

Goal. OS – Review the NTIS.

Requirements
Discuss
- All demonstrate and introduce maneuvers
- NTIS components
- NTIS track modes
- NTIS LASER pointer modes
- NTIS environmental considerations
- Non-uniformity correction (NUC) procedures
- Fault Isolation Test (FIT) procedures
- Pre-point, Inertial point, heading hold, and geopoint
- Auto and enhanced gain

Review
- NTIS page operation
NTIS Hand Control Unit functionality
DVR functionality
Storing a waypoint/target using the NTIS
TDC page setup
FAM/INST/CAT sustainment

Performance Standards
PUI will have a detailed understanding and functional knowledge of the DMS and FLIR IAW the UH-1Y NATOPS and Brite Star Block II Ops Manual.
PUI shall load a mission card consisting of both editable and non-editable waypoints, communication load, mission list and one route.
PUI shall complete an accurate weight and power computation for given conditions.

Prerequisites. 1700

Crew. FRSI/PUI/CC

2.7.8 Combat Assault Transport (CAT)

Purpose. To develop proficiency of confined area operations and tactical approaches.

General. PUI must demonstrate the capability to safely takeoff and land in a confined area during day and night conditions.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. ACAD-1000.

References. Maneuver Description Guide, NATOPS manual, NVD manual, NTTP

CAT-1800 1.5 * B D A I UH-1Y

Goal. OS - Introduce confined area operations and tactical approaches.

Requirements
Discuss
All demonstrate and introduce maneuvers
Vortex ring state
Pr > Pa
Power computations (AVP vs performance charts)
Power management / HV Diagrams
Single engine power
Landing zone brief
Hover box operations
Tactical approaches and departures
Slope landings
Dynamic rollover
Aircrew coordination with emphasis on crew chief briefs and utilization

Introduce
Confined area takeoffs/landings
Tactical approaches
Slope landings
Hover box operations

Review
Tactical landing profile (RVL)
Waveoff procedures

Performance Standards
IAW the UH-1Y NATOPS, NTTP and MDG.
PUI shall load a mission card with editable waypoints of desired CAL sites, route between the CAL sites and a vector overlay of any ranges/restricted airspace to avoid.

Prerequisites. 1113
Crew. FRSI/PUI/CC

Goal. OS - Review confined area operations and tactical approaches

Requirements
Discuss
- All demonstrate and introduce maneuvers
- HOGE scan techniques
- HIE considerations
- High altitude operations and considerations
- Brown out/white out landings
- Pr > Pa Mishap
Demonstrate
- Brownout landings
- HIE approach
Introduce
- Mountain area landings
- Tactical approaches and departures in a low and high threat environment
Review
- Confined area takeoffs/landings
- Slope landings
- Tactical approaches
- Waveoff procedures

Performance Standards
IAW the UH-1 NTTP and MDG.
PUI shall load a mission card with editable waypoints of desired CAL sites, route between the CAL sites and a vector overlay of any ranges/restricted airspace to avoid.

Prerequisite. 1800
Crew. FRSI/PUI/CC

Goal. OS - Introduce NVD confined area operations and tactical approaches.

Requirements
Discuss
- All demonstrate and introduce maneuvers
- Use of searchlight
- NVD brown out/white out landings
- Effects of moisture
Introduce
- Confined area takeoffs/landings
- Tactical approaches
- Slope landings
- Hover box operations
Review
- Waveoff procedures

2-40
Performance Standards
IAW the UH-1 NTTP and MDG
PUI shall load a mission card with editable waypoints of desired CAL sites, route between the CAL sites, a vector overlay of any ranges/restricted airspace to avoid.

Prerequisites. 1118, 1801

Crew. NSI or NSFI/PUI/CC/OA

2.7.9 Core Introduction Check (CIX)

Purpose. To review all areas of instruction and demonstrate proficiency and knowledge of all maneuvers to certify the PUI as PQM, NATOPS qualified and Core Introduction Phase complete. To evaluate PUI’s ability to safely act as PIC or designated wingman during nontactical flights.

General. The PUI will demonstrate proficiency through the Core Introduction phase. Upon completion of the evaluation event, the PUI will be designated as PQM IAW UH-1Y NATOPS. CIX-1900/1901 meets the qualifications for the 7513/7563 MOS and will serve as the initial NATOPS evaluation (NTPS-6101). A 6101 tracking code shall be logged at the completion of the SCIX-1900.

Crew Requirements. As listed at the end of each event.

SCIX-1900 1.5 485 B,R,SC,MR D S 1 UH-1Y

Goal. OS - Conduct a NATOPS evaluation IAW CNAF M-3710.7 and UH-1Y NATOPS.

Requirements
Discuss
NATOPS Brief with emphasis on CRM
Egress procedures
Aircraft emergencies with emphasis on causes, indications and recovery procedures

Review
Any previously introduced item
Aircraft emergencies with emphasis on causes, indications and recovery procedures

Performance Standards
PUI shall conduct all procedures and maneuvers IAW CNAF M-3710.7 and the UH-1Y NATOPS.

Prerequisites. 6002, 6003, all previous Core Introduction Phase events

Crew. ANI/PUI/Co-pilot (1113 complete)

CIX-1901 2.0 485 B,R,SC,MR D A 2 1 UH-1Y & 1 H-1

Goal. OS – Core Introduction Check.

Requirements
Discuss
Responsibilities of the Pilot Qualified in Model (PQM) IAW CNAF M-3710.7
Any previously introduced item
CRM during formation flight
ASTACSOEP contingencies during formation flight
Aircraft emergencies during formation flight

Review
Parade flight
Cruise flight
Breakup and rendezvous
Tactical formation maneuvers
Wingman awareness
Formation communication
Section landings
In-flight contingencies

**Performance Standards**

PUI shall act as PIC and IP shall act as peer-level co-pilot.

Mission profile shall focus on the tasks related to ferry/cross country flights and should incorporate VFR and IFR components.

PUI shall execute abbreviated parade and cruise sequences as wingman and be prepared to execute ASTAC SOP in-flight contingencies and/or other emergencies.

PUI shall demonstrate ability to safely hold in cruise formation as wingman.

PUI shall demonstrate ability to safely takeoff and land as a wingman.

A minimum of 2 section landings will be accomplished as wingman.

IP shall conduct jacket review.

**Prerequisites**

1204, 1900

**Crew**

ANI/PUI/CC

**MIR-1999  0.0  *  R.MR  G**

**Goal.** Core Skill Introduction Phase proficiency mirroring code. This code shall be logged upon an individual’s assignment to the Refresher or Modified Refresher syllabus at the FRS. The proficiency date shall correspond to the date that the individual completed their last flight in the UH-1Y. Events in which individuals have lost proficiency based on the date entered for this code are required to be re-flown as part of the Refresher or Modified Refresher syllabus.

**Coordination.** Pilots assigned to the Refresher or Modified Refresher syllabus at the FRS in accordance with Program Manual guidance are required to provide the date on which they last showed proficiency in the aircraft. This date can be pulled from the Aviator’s Flight Log Book or MSHARP Aircrew Log Book. The date shall correspond to any flight on which flight time was logged in the UH-1Y.
2.8  CORE ACADEMIC PHASE (2000)

**Purpose.** To develop a Core Phase complete co-pilot. These academics facilitate understanding of functions/operations in the UH-1Y and ensure individuals possess the requisite knowledge to be a TERF, TCT, REC, CAT, SWD, NSQ-HLL and NSQ-LLL qualified co-pilot. The focus of this training is co-pilot combat proficiency.

**General**

These academics are intended to be an integrated series of academic lectures, readings and practical application contained within each phase of training. The lectures, readings and chalk-talks are contained in the MAWTS-1 UH-1 Course Catalog. The academic courseware is a requirement.

At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the individual pilot, contract instructor or squadron operations personnel, as appropriate. The codes listed below associated with these classes may NOT be the most up to date as the current UH-1 Course Catalog is the master document for stage academic requirements.

Core academic events are listed below.

<table>
<thead>
<tr>
<th>CORE ACADEMIC PHASE</th>
<th>TRAINING CODES</th>
<th>COURSEWARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL REQUIREMENTS</td>
<td>ACAD-2000</td>
<td>HMLA Radios</td>
</tr>
<tr>
<td></td>
<td>ACAD-2001</td>
<td>MAWTS-1 NITE Lab Courseware</td>
</tr>
<tr>
<td></td>
<td>ACAD-2002</td>
<td>H-1 Aerodynamics</td>
</tr>
<tr>
<td></td>
<td>ACAD-2021</td>
<td>(S) Evasive Maneuvers</td>
</tr>
<tr>
<td></td>
<td>ACAD-2022</td>
<td>(S) Threat Analysis</td>
</tr>
<tr>
<td></td>
<td>ACAD-2023</td>
<td>(S) HMLA ASE*</td>
</tr>
<tr>
<td></td>
<td>ACAD-2011</td>
<td>Recognition of Combat Vehicles (ROC-V)**</td>
</tr>
<tr>
<td></td>
<td>ACAD-2042</td>
<td>UH-1 FLIR Employment</td>
</tr>
<tr>
<td></td>
<td>ACAD-2060</td>
<td>UH-1 Ordnance Delivery</td>
</tr>
<tr>
<td></td>
<td>ACAD-2061</td>
<td>UH-1 Weapons Systems</td>
</tr>
<tr>
<td></td>
<td>ACAD-2062</td>
<td>UH-1 Rockets</td>
</tr>
<tr>
<td></td>
<td>ACAD-2063</td>
<td>(S) AGM-114 Hellfire</td>
</tr>
<tr>
<td></td>
<td>ACAD-2090</td>
<td>HMLA FARP Operations</td>
</tr>
<tr>
<td>CORE SKILLS</td>
<td>ACPM-8200</td>
<td>8200 Series Courseware</td>
</tr>
<tr>
<td></td>
<td>ACPM-8310</td>
<td>Forward Arming Refueling Point (FARP) Operations</td>
</tr>
<tr>
<td></td>
<td>ACPM-8311</td>
<td>Marine Corps Tactical Fuel Systems</td>
</tr>
</tbody>
</table>

ACPM courseware is available on MCALMS.  
*Indicates classes that should be presented to all pilots annually.  

2.9  CORE PHASE (2000)

**Purpose.** To produce a Core Phase proficient co-pilot.

**General.** Upon completion of this phase, the pilot will be TERF, TCT, REC, CAT, SWD, EXP, NSQ-HLL and NSQ-LLL complete, and may conduct additional skills as specified by the squadron commander.

Consideration should be given to scheduling a co-pilot in addition to the instructor during completion of some simulator events. Providing a co-pilot will provide a more realistic crew environment and facilitate better Crew Resource Management (CRM) techniques.
Completion of TERF-2101 meets the requirements for the PUI to be TERF qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as TERF qualified shall be placed in the NATOPS jacket and APR.

Completion of TERF-2101 and CAT-2403, meets the requirements for the PUI to be Night Systems Qualified – High Light Level (NSQ-HLL). At the discretion of the squadron commanding officer a letter assigning the PUI as NSQ-HLL shall be placed in the NATOPS jacket and APR.

Completion of SFAM-2802, CAT-2404, TERF-2102, and CAT-2405 meets the requirements for the PUI to be Night Systems Qualified – Low Light Level (NSQ-LLL). At the discretion of the squadron commanding officer a letter assigning the PUI as NSQ-LLL shall be placed in the NATOPS jacket and APR.

**Stages.** The following Stages are included in the Core Phase of training.

<table>
<thead>
<tr>
<th>PAR NO.</th>
<th>STAGE NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9.3</td>
<td>Terrain Flight (TERF)</td>
</tr>
<tr>
<td>2.9.4</td>
<td>Threat Counter-Tactics (TCT)</td>
</tr>
<tr>
<td>2.9.5</td>
<td>Reconnaissance (REC)</td>
</tr>
<tr>
<td>2.9.6</td>
<td>Assault Transport (CAT)</td>
</tr>
<tr>
<td>2.9.7</td>
<td>Specific Weapons Delivery (SWD)</td>
</tr>
<tr>
<td>2.9.8</td>
<td>Familiarization (FAM)</td>
</tr>
<tr>
<td>2.9.9</td>
<td>Expeditionary Shore Based (EXP) Operations</td>
</tr>
</tbody>
</table>

Pilots entering the Core Phase shall have completed the Core Skill Introduction Phase.

### 2.9.1 Ordnance Delivery

For Core Events involving ordnance delivery, the PUI shall be evaluated on delivery accuracy. Fixed forward weapons and crew served weapons listed for each Event will be selected based on training requirements. IPs shall evaluate ordnance accuracy based on the following accuracy metrics.

<table>
<thead>
<tr>
<th>CORE SKILL</th>
<th>UNGUIDED ROCKET STANDARD</th>
<th>GUN STANDARD</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-In correct profile per NTTP</td>
<td>-On target within 3 seconds of trigger pull</td>
<td>-Based upon rocket Risk Estimate Distances (REDs)***</td>
</tr>
<tr>
<td></td>
<td>-No miss greater than 200 meters long/short, 100 meters laterally</td>
<td>-Crew served: Crew coordination sufficient to achieve AG metric.</td>
<td>-Qualifies PUI to deliver rockets during combat OAS</td>
</tr>
<tr>
<td></td>
<td>-CE90≤100 meters**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CE90 example: SWD-2603 requires (7) 2.75” rockets. CE90≤100 meters requires that 90% of the delivered rockets impact within 100 meters of the target. In order to calculate, simply disregard the worst 10% of rockets released and the remaining farthest SINGLE MISS DISTANCE = CE90. Conservative rounding is applied.**

Examples:
- 3-10 rockets released ~ disregard one rocket, SECOND FARTHEST MISS = CE90
- 11-20 rockets released ~ disregard two rockets, THIRD FARTHEST MISS = CE90
- In no case can a single rocket miss the intended target by more than 200m, including the omitted rounds for CE90 calculation. This constitutes failure to meet the performance standard.

***Risk Estimate Distances (REDs) are based upon ALSA assumptions, which consider (among other factors) warhead fragmentation patterns and delivery accuracy. HE rocket delivery profiles outside of the NTTP Weapons Release Envelope will invalidate the REDs listed in JFIRE, and will increase risk to ground personnel during CAS missions.

APKWS- Correct switchology, proper LASER placement, profile IAW UH-1 NTTP direct hit.

TOTs - Initial ordnance shall be delivered within +/- 30 seconds of established TOT.

### 2.9.2 Navigational Accuracy

At the completion of this phase, the PUI will have demonstrated increased
navigational accuracy and timeliness under low threat conditions. The PUI shall demonstrate the ability to meet the Core Skills combat assault transport accuracy metric. PUI shall consistently land within +/- 60 seconds of the assigned L-Hour and within 75 meters of the planned landing point. At least once, the PUI must be able to land within +/- 30 seconds of L-Hour. IP shall use MPS or aircraft systems to assess landing point accuracy.

2.9.3 Terrain Flight/Navigation (TERF)

Purpose. To refine proficiency in terrain flight and navigation.

General. PUI will demonstrate proficiency in terrain flight and navigation. Once complete in this stage the pilot may be TERF qualified at the discretion of the commanding officer.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

<table>
<thead>
<tr>
<th>TERF-2100</th>
<th>2.0</th>
<th>180</th>
<th>B.R</th>
<th>D</th>
<th>A</th>
<th>1</th>
<th>UH-1Y</th>
</tr>
</thead>
</table>

Goal. OS - Review TERF maneuvers and navigation.

Requirement

Discuss
Describe various terrain features
Effective CRM/TRM during navigation
Navigation terminology
Considerations for selection of a power margin
Moving map navigational system use and operation
High gross weight handling characteristics
LTA
LTE
Power Settling
Settling with power
Obstacle avoidance
Considerations for TERF profile selection
Blade walk and rotor disc positioning

Review
TERF profiles
TERF maneuvers
Loading and operation of the moving map navigation system
CRM during TERF

Performance Standards
PUI shall conduct the route brief.
PUI shall complete a navigation route with a minimum of 5 checkpoints utilizing a 1:50,000 scale map and minimum length of 20 NM.
PUI shall remain oriented on entire route within 500 meters, 15 degrees of heading and 1 minute of planned route time and 20% of planned fuel.
PUI shall conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.
PUI shall plan and brief aircraft performance data and selected power margin.
PUI shall conduct a minimum of 5 landings to an unimproved landing site.

Prerequisites. 1901, 2002

Range Requirement. Authorized TERF route, high bird if required

Crew. TERFI/PUI/CC

Note. For those pilots assigned to the Refresher and Series Conversion POI. If NAV-1503 has been flown within the preceding 180 days, they meet the Performance Standards of TERF-2100. Manual entry, i.e. baseline in M-SHARP with proficiency date of NAV-1503.

| TERF-2101 | 2.0 | 180 | B.R,SC,M | NS | A | 1 | UH-1Y |
Goal. OS - Review TERF maneuvers and navigation using NVDs (HLL).

Requirements
Discuss
- ASTAC SOP lighting configurations
- NVD focus procedures
- NVG and A/C emergencies
- TERF maneuvers at night
- NVD scan patterns in TERF environment
- Cultural lighting
- Intercockpit and intraflight crew coordination during low altitude tactical flight utilizing NVGs

Review
- Proper NVD scan patterns
- ASTAC SOP lighting configurations
- NVD TERF flight and maneuvers considerations
- Effective CRM during navigation and obstacle avoidance

Performance Standards
- PUI shall conduct the route brief.
- PUI shall complete a navigation route with a minimum of 5 checkpoints utilizing a 1:50,000 scale map and minimum length of 20 NM. Remain oriented on entire route within 500 meters, 15 degrees of heading and 1 minute of planned route time.
- PUI shall conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.
- PUI shall conduct a minimum of 5 landings to an unimproved landing site.

Prerequisites. 2001, 2100

Range Requirement. Authorized TERF route, high bird if required.

Crew. NSI/PUI/CC/AO

TERF-2102 1.5 180 B,R,M NS A 2 1 UH-1Y & 1 H-1

Goal. OS - Develop proficiency in tactical formation flight and TERF navigation (LLL).

Requirements
Discuss
- Tactical formations on NVGs
- LLL formation flight considerations
- Navigation hazards
- Night systems integration
- Night rendezvous and join-up procedures per UH-1 NTTP
- Loss of visual contact procedures

Introduce/Demonstrate
- Tactical formation flight
- Navigation utilizing NVDs in low level, contour and NOE flight profiles
- Rendezvous and join-up procedures
- Loss of visual contact procedures
- TERF maneuvers in LLL conditions

Review
- Proper NVD scan patterns
- External aircraft lighting

Performance Standards
- PUI shall plan, brief and navigate a TERF route with a minimum of 5 checkpoints utilizing a 1:50,000 scale map and minimum length of 20 NM. Remain oriented on entire route within 500 meters, 15 degrees of heading and 1 minute of planned route time.
- PUI shall conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.
- IP shall demonstrate loss of visual contact and the subsequent rendezvous and join-up.

Prerequisites. 2101, 2404
Range Requirement. Authorized TERF area

Crew. NSI/PUI/CC/AO

2.9.4 Threat Counter Tactics (TCT)

Purpose. To introduce EMCON procedures and offensive/defensive electronic and infrared countermeasures, tactics, employment of Aircraft Survivability Equipment (ASE) in a radar/IR environment.

General. At the completion of this stage, the PUI will be proficient at setup, operation, and employment of all aircraft survivability equipment.

Aircraft should be configured with an operable APR-39, ALE-47, AAR-47, HMSD, NTIS, LTD/LRF and VTR.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

| STCT-2200 | 1.5 | * | B | D | S | 1 | UH-1Y |
|-----------|-----|---|---|---|---|---|       |

Goal. OS - Introduce ASE operation in a low to medium IR and RADAR threat environment.

Requirements

Discuss

ASTACSOP evasive maneuvers/threat reactions
ALE-47 flare and chaff expendable characteristics
HMSD Symbology

Demonstrate/Introduce

An entire RADAR threat missile engagement sequence with emphasis on system indications and function
Threat RADAR systems and their associated APR-39 indications
Pre-emptive and reactive expendable use against an IR threat
A preplanned attack against a RADAR or IR threat
A reactive attack against a RADAR or IR threat
Brevity calls
ASTACSOP threat reaction calls
APE-39, AAR-47, and ALE-47 systems operations to include power up, Built In Test(BIT)
procedures, training mode and basic mode/manual operations
APE-39, AAR-47, and ALE-47 system trouble shooting

Performance Standards

Successfully operate (energize and BIT) APR-39, AAR-47, and ALE-47 systems.
Successfully select the ALE-47 training mode.
Given a threat, select an appropriate ALE MAG ID and program setting.
Correctly identify APR-39 threat system displays based on system visual/aural indications.

Prerequisite. 1901, 2021, 2022, 2023

Crew. WTO/PUI

| STCT-2201 | 1.5 | 365 | B,R,SC,M | (NS) | S/A | 2 | UH-1Y & 1 H-1 |
|-----------|-----|-----|----------|------|-----|---|            |

Goal. OS - Introduce tactical employment of ASE versus RADAR and IR threat systems.

Requirements

Discuss

Capabilities/limitations/weapon envelopes of potential threat systems; (1) IR threat, (1) RADAR threat
Terrain profile analysis and related tactical considerations
Maneuvers/terrain masking necessary to avoid detection/acquisition from enemy infrared guided and optically tracked systems
EMCON procedures and tactical employment

Demonstrate/Introduce

How to plan a route in order to avoid a threat using mission planning software, threat overlays, SAFE-T, and WEZ analysis
Use of aircraft systems to aid in threat avoidance (e.g. Threats, CLOS, intervisibility)

Review

APR-39, AAR-47, and ALE-47 systems operation
Tactical employment of PGMs versus preplanned and reactive targets in an IR SAM threat environment
ALE-47 expendable characteristics

Performance Standards

Successfully operate (energize and BIT) APR-39, AAR-47, and ALE-47 systems.
Successfully BIT and report MAGIDs on the ALE-47.
Given a threat, select an appropriate ALE MAG ID and program setting
Correctly identify APR-39 threat system displays based on system visual/aural indications.
Correctly perform appropriate evasive maneuvers and expendable release in response to surface to air threat.
Execute a preplanned attack against a RADAR or IR threat.
Execute a reactive attack against a RADAR or IR threat.

Prerequisite. 2200 (2100~AC, 2101~NS AC)

Ordnance. If flown in aircraft: (60) chaff/flares

Range Requirement. EW range, LASER safe range

External Syllabus Support. TRTG, remote radar emitter and IR stimulator support

Crew. WTO(NSI)/PUI (WTO(NSI)/PUI~AC)

2.9.5 Reconnaissance (REC)

Purpose. To develop proficiency in reconnaissance operations.

General. The PUI will demonstrate proficiency in aircraft system employment and sensor management for target detection, recognition and identification during reconnaissance operations.

Aircraft shall be configured with an operable NTIS, HMSD, and VTR.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

REC-2300 1.5 * B D A 1 UH-1Y

Goal. OS - Introduce day visual reconnaissance.

Requirements

Discuss
NTIS switchology, components and functions
HMSD system components, operation and integration
Sensor Management
VTR functions and tactical use
Basic Visual Reconnaissance techniques
Commander’s Critical Information Requirements (CCIRs)
Traveling, traveling overwatch & bounding overwatch

Demonstrate/Introduce
Controller operation and image optimization (Grayscale, NUC, and Gyro Drift Null, etc)
All operating modes (FIT, Cage, Rate Aid, Autotrack etc.)
LASER operation
VTR displays and functions
S-2 debrief
MISREP/IFREP procedures
Intelligence collection/dissemination procedures
Buddy Lase procedures

Performance Standards
Successfully operate (energize and boresight) NTIS system.
Successfully operate NTIS to include gain/level, man/auto, polarity and focus.
Successfully record and play back VTR.
Correctly describe LASER range finder/designator and LASER functions.
Correctly perform auto track, offset, pre-point, source selection functions.

Prerequisites. 2011, 2001, 2042 (2100–AC)

Range Requirement. Authorized TERF area as required, LASER safe range

External Syllabus Support. Thermally augmented threat vehicles, if available

Crew. WTO/PUI

REC-2301  1.5  180  B,R,SC,M  NS  A  1  UH-1Y

Goal. OS - Introduce visual reconnaissance procedures (HLL/LLL).

Requirements
Discuss
Section TERF maneuvering
Use of sensor performance prediction tools
Demonstrate/Introduce
Traveling, traveling overwatch & bounding overwatch
Use of sensor performance prediction tools
Review
NTIS switchology/components/functions
HMSD system components, operation and integration
Sensor management
Basic Visual Reconnaissance techniques
Commander’s Critical Information Requirements (CCIRs)
MISREP/IFREP procedures
Intelligence collection and dissemination procedures

Performance Standards
Utilize the proper reconnaissance method to acquire detect, identify and recognize targets.
PUI shall demonstrate proficiency with sensors and modes, to include image optimization and tactical employment of sensor modes.
PUI shall conduct reconnaissance, while demonstrating functional knowledge of recce techniques and proper use of the sensor.
PUI shall use the data recorder (VTR) for debrief and mission analysis.

Prerequisites. 2101, 2300

Range Requirement. Authorized TERF area, LASER safe range, if available.

External Syllabus Support. Thermally augmented threat vehicles, if available.

Crew. NSI/PUI/CC/AO

2.9.6 Combat Assault Transport (CAT)

Purpose. To develop proficiency in section tactical approaches, landings and departures during any light level.

General. The PUI will demonstrate proficiency in tactical landings, tactical approaches and section combat assault transport skills.

Aircraft shall be configured with an operable NTIS, HMSD and VTR.
Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the UH-1 MAWTS-1 Course Catalog.

**CAT-2400** 1.5 * B D A 1 UH-1Y

**Goal.** OS - Introduce section tactical approaches, landings and departures.

**Requirements**

**Discuss**

- Tactical landing profile
- Indications of a good approach
- Landing zone selection criteria
- LZ brief
- Landing checklist
- Inside/outside scan parameters during approach, landing and takeoff
- Communications during landings and takeoffs
- Recommended waveoff parameters and required communications

**Demonstrate/Introduce**

- Straight-in approach (IP to LZ) with timing
- Tactical landing profile
- Individual waveoffs
- Medium altitude approach and approach entries and departures

**Review**

- Tactical approaches
- Tactical departures
- Slope landings

**Performance Standards**

- IP shall demonstrate an IP to LZ profile to land to a point at an established L-Hour.
- IP shall demonstrate a minimum of one waveoff during the landing stage of a profile.
- PUI shall conduct a minimum of two waveoffs during the landing stage, one of which shall include a transfer of controls.
- A minimum of one landing shall be conducted within 10% of a pre-determined hover power torque
- A minimum of 4 landings shall be accomplished as straight-in profiles with a minimum of 1.5km finals.

**Prerequisite.** 1901

**Crew.** BIP/PUI/CC

**CAT-2401** 1.5 * B NS A 1 UH-1Y

**Goal.** OS - Introduce section tactical approaches, landings and departures (HLL).

**Requirements**

**Discuss**

- LZ diagrams
- Environmental impacts on LZ selection
- Use of overt / IR searchlight
- Far/near ITG
- NVD/ considerations for landing scan
- Standard AFL/EFL communications IAW ASTACSOP

**Demonstrate/Introduce**

- Tactical approaches, landings and departures at night
- NVD compatible landing zone lighting aids
- Use of overt / IR searchlight
- Far/near ITG
- Sensor usage in zone identification
- Medium altitude approach and approach entries and departures

**Review**

- Straight-in approach (IP to LZ) with timing
- Section tactical approaches, landings and departures
- Simultaneous landings
- Tactical landing profile
- Flight and individual waveoffs
Performance Standards
- IP shall demonstrate an IP to LZ profile to land to a point at an established L-Hour.
- IP shall demonstrate a minimum of one waveoff during the landing stage of a profile.
- PUI shall conduct a minimum of two waveoffs during the landing stage, one of which shall include a transfer of controls.
- A minimum of one landing shall be conducted within 10% of a pre-determined hover power torque
- A minimum of 4 landings shall be accomplished as straight-in profiles with a minimum of 1.5km finals.

Prerequisite: 2400

Crew: NSI/PUI/CC/AO

**CAT-2402** | 1.5 | 180 | B,R | D | A | 2 | UH-1Y

Goal: OS - Introduce tactical combat assault transport ingress profiles and landing formations IAW UH-1 NTTP.

Requirements
- Discuss
  - Tactical ingress profiles
  - Tactical landing formations
  - Flight landing considerations and constraints
  - LZ planning and analysis
  - Methods of insertion/extraction
  - Use of an ASSAT/ASLT and standard accountability communications within the flight
  - Flight lifting procedures
  - Air to air TACAN usage
  - Power management and planning considerations
  - Line of deconfliction (LOD) usage
  - Join-up and rendezvous procedures IAW ANTTP
- Introduce
  - Section tactica approaches, landings and departures
  - Ingress profiles
  - Flight and individual waveoffs for single and multiple points
  - Join-up and rendezvous procedures IAW ANTTP
- Review
  - Straight-in approach (IP to LZ) with timing

Performance Standards
- PUI shall produce applicable LZ diagrams IAW UH-1 NTTP and brief LZs and ingress profiles.
- A minimum of one LZ shall be selected with associated IP and timing to LZ.
- A minimum of 4 ingress profiles shall be accomplished as lead and 4 ingress profiles shall be accomplished as the wingman.
- A minimum of 2 flight waveoffs shall be conducted, once as lead and once as wingman
- IP shall demonstrate at least one multi-axis approach
- A minimum of one low to high join-up and one standard holding join-up shall be accomplished.

Prerequisite: 2100, 2400

Crew: BIP/PUI/CC

**CAT-2403** | 1.5 | 180 | B,R,SC,M | NS | A | 2 | UH-1Y

Goal: OS - Conduct tactical combat assault transport ingress profiles and landing formations IAW UH-1 NTTP (HLL).

Requirements
- Discuss
  - Previously discussed stage items.
  - Flight NVD lighting considerations
- Review
  - Previously discussed stage items
- Evaluate
PUI’s ability to safely conduct tactical ingress profiles, approaches and landings under HLL conditions
PUI’s understanding of power management and his or her ability to plan and execute tactical landings to a confined area within power margins.

Performance Standards
PUI shall demonstrate safe basic air work, sound judgment, and situational awareness in the lead and wingman positions.
PUI shall produce applicable LZ diagram(s) and brief section tactical approaches, landings and departures.
A minimum of 4 landings will be accomplished as lead and 4 landings will be accomplished as the wingman.
PUI shall achieve at least one L-hour within +/- 30 seconds.
A minimum of 2 flight waveoffs shall be conducted, once as lead and once as wingman.
IP shall demonstrate at least one multi-axis approach
A minimum of one low to high join-up and one standard holding join-up shall be accomplished.

Prerequisite. 2101, 2401, 2402

Crew. NSI/PUI/CC/AO

CAT-2404 2.0 * B,SC NS A 1 UH-1Y

Goal. RS - Perform FAM, NAV, and tactical landings in the Low Light Level (LLL) environment.

Requirements
Discuss
NVD Route Planning Consideration
Navigational aids preparation (Map/Chart preparation, Mission Card configuration, sensor integration, timing considerations)
Fuel planning
Aircraft external lighting configurations and options
Introduce
Basic low work and pattern work at an unlighted field or remote landing site
NVD navigation techniques

Performance Standards
PUI shall conduct 5 landings at an unlighted field or remote landing site free from artificial illumination.
PUI shall perform all FAM maneuvers IAW MDG and MAWTS-1 NVD manual.
PUI shall plan, brief and navigate a route utilizing a 1:250,000 scale map consisting of a minimum of 5 checkpoints and 50 nautical miles remaining oriented within 1 NM of flight planned route, 15 degrees of heading and arrive at final checkpoint within 1 minute of assigned time, and within 20% of planned fuel.
Utilize NTIS to aid in identifying checkpoints enroute.
PUI shall not use the GPS for a minimum of 2 legs of the route.

Prerequisites. 2802, 2403

External Syllabus Support. Unlit field or remote landing site free from artificial illumination

Crew. NSI/PUI/CC/AO

CAT-2405 1.5 180 B,R,SC,M NS A 2 UH-1Y

Goal. OS – Review section tactical ingress profiles, approaches, landings, and departures (LLL).

Requirements
Discuss
All previously discussed CAT stage items.
Review
Straight-in approach (IP to LZ) with timing
Section tactical ingress profiles, approaches, landings and departures
Simultaneous landings
Low to high rejoin IAW UH-1 NTTP
Slope landings
Section tactical approaches, landings and departures at night
NVD compatible landing zone lighting aids
Use of overt/IR searchlight
NVD scan patterns during approach and landing in lead and -2 positions
Far/near ITG
Sensor usage in zone identification
Flight and individual waveoffs

Performance Standards
PUI shall demonstrate safe basic air work, sound judgment, and situational awareness in the lead and wingman positions.
PUI shall produce applicable LZ diagram(s) and brief section tactical approaches, landings and departures.
A minimum of 4 landings will be accomplished as lead and 4 landings will be accomplished as the wingman.
4 of the landings shall be straight-in approaches with a minimum of 1.5 km final.
A minimum of one waveoff shall be conducted during the landing stage.
PUI shall meet the threshold of landing performance standards for stage
PUI shall achieve at least one L-hour within +/- 30 seconds.

Prerequisite.  2404

External Syllabus Support.  Unlit field or remote landing site free from artificial illumination

Crew.  NSI/PUI/CC/AO

2.9.7  Specific Weapons Delivery (SWD)

Purpose.  To develop proficiency in SWD and weapons system employment.

General.  At the completion of this stage, the PUI will have demonstrated proficiency in ordnance delivery and proper use of the sensors under all threat conditions with mixed ordnance loads.  SWD should be conducted on raked/scored ranges whenever possible.  Focus should be on weapons delivery profiles and ordnance accuracy, not tactical scenarios.  Recorded mission footage should be used to debrief to the maximum extent possible.  Emphasis will be on CRM and risk management while utilizing the ordnance systems.

Aircraft should be configured with an operable NTIS, crew-served weapons, HMSD, LTD/LRF, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

The ranges used for employing crew served weapons vary due to the intended training profile being used during specific weapons delivery execution.  The ranges are based on the transition points throughout a full attack profile from ingress to pull off.  The initial simulator event focuses on forward firing ordnance with ranges from 300-800 meters.  The initial flight in each light condition dictates ranges for crew served weapons from 300-1500 meters in order to focus training on the second and third phase of an attack profile (transition from the pop to forward firing ordnance).  Subsequent events in each light condition may dictate ranges from 300-2000 meters for crew served weapons in order to focus training on the complete attack profile from ingress to pull off.

Crew Requirements.  As listed at the end of each event.

Ground/Academic Training.  IAW the MAWTS-1 UH-1 Course Catalog.

SSWD-2600  1.5  *  B  D  S  1  UH-1Y

Goal.  OS – Conduct SWD with rockets and fixed forward GAU-17.  Introduce sensor employment in conjunction with SWD.

Requirements
Discuss
Sensor employment
LASER designation considerations
Weapons checklists
Attack patterns
FRAG patterns
Bore sighting procedures/techniques
Malfunction procedures
Use of ordnance delivery charts
Surface Danger Zones (SDZs)
Flechette rockets and profiles
HMSD symbology
Demonstrate/Introduce
Flechette delivery profile
Low/medium altitude delivery profiles
Review
Ordnance procedures
Aircrew coordination
Weapon malfunctions/emergencies
Rocket delivery profiles

Performance Standards
Conduct the arm/dearm and the Penetration/After Firing checklist per UH-1Y NATOPS & TPG.
PUI shall conduct diving fire, long range marking, and fixed forward gun delivery.
Successful employment of 2.75” rockets at ranges from 500-1200 meters, exhibiting proper impact, detection, and adjustment.
Successful employment of the GAU-17 (fixed forward) at ranges from 300-1200 meters, exhibiting proper impact, detection, and adjustment.
During at least one engagement PUI shall adhere to a TOT +/- 30 seconds.

Prerequisites. 2060, 2061, 2062, 2200

Crew. WTO/PUI

SSWD-2601 1.5 730 B,R,SC D S 1 UH-1Y

Goal. OS – Conduct SWD with APKWS.

Requirements
Discuss
APKWS characteristics
APKWS employment procedures and switchology
APKWS weaponing considerations
APKWS aircrew coordination
J-LASER terminology
Demonstrate/Introduce
APKWS employment and CRM
Review
Low/medium altitude delivery profiles
HMSD symbology
Sensor employment
LASER designation considerations
Ordnance procedures
Aircrew coordination
Weapon malfunctions/emergencies

Performance Standards
Conduct the arm/dearm and the Penetration/After Firing checklist per UH-1Y NATOPS & TPG.
Conduct APKWS rocket delivery.
Successful employment of APKWS at ranges from 1500-5000 meters with all modes of delivery.
During at least one engagement PUI shall adhere to a TOT +/- 30 seconds.

Prerequisites. 2200, 2300, 2600

Crew. WTO/PUI

SWD-2603 1.5 * B D A 1 UH-1Y

Goal. OS – To develop proficiency at specific weapons delivery.
Requirements

Discuss
- Ordnance and weapons nomenclature
- Engagement envelopes of 2.75" rockets
- Use of ordnance delivery charts
- Minimum Safe Distances (MSDs)
- Risk Estimate Distances (REDs)
- Danger Close
- SWD error analysis
- CRM and intracockpit communication during ordnance evolutions

Review
- Sensor employment
- LASER designation considerations
- Weapons checklists
- Attack patterns
- FRAG patterns
- Bore sighting procedures/techniques
- Malfunction procedures
- Use of ordnance delivery charts
- APKWS employment procedures
- J-LASER terminology
- Flechette rockets and profiles
- HMSD symbology
- FRAG patterns

Performance Standards
- PUI shall conduct crew served weapons delivery and attack profiles IAW the UH-1Y NATIP/NTTP.
- Successful employment of crew served weapons at ranges 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters, exhibiting proper impact detection and adjustment, working towards Core Skill accuracy metric while adhering to all range regulations.
- PUI shall conduct Fixed Forward GAU-17 delivery.

Prerequisite
- 2100, 2600

Ordnance
- (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement
- Live fire LASER safe range

Crew
- WTO/PUI/CC/AO

SWD-2604 1.5 180 B,R D A 1 UH-1Y

Goal
- OS - To develop proficiency at ordnance delivery.

Requirements

Discuss
- Weapon switchology with emphasis on ordnance trouble shooting
- Attack patterns
- SOP ordnance procedures
- Use of rocket charts and delivery techniques
- Target fixation
- Rocket/gun related emergency procedures

Review
- Ordnance procedures
- Aircrew coordination
- Weapons preflight
- Arming/de-arming, and clear and safe procedures
- All ordnance emergencies
- CRM during ordnance evolutions
- HMSD symbology
Performance Standards

PUI shall conduct crew served weapons delivery and attack profiles IAW the UH-1Y NATIP/NTTP.
Employ rockets, fixed forward guns and crew served weapons in running and diving fire.
Successful employment of crew served weapons at ranges 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters, exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.

Prerequisites. 2201, 2603

Ordnance. (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Live fire LASER safe range

Crew. WTO/PUI/CC/AG

SWD-2605 1.5 180 B,R,SC,M D A 1 UH-1Y

Goal. OS - To evaluate proficiency at specific weapons delivery.

Requirements

Discuss
Engagement envelopes of 2.75 inch rockets
Weapons mode and switchology errors
CRM and intra cockpit communication during ordnance employment

Review
Ordnance specific CRM
Rocket delivery utilizing a scored or raked range
All ordnance emergencies
Ordnance pre-flight checks
SWD error analysis

Performance Standards

Successful employment of crew served weapons at ranges from 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters, exhibiting proper impact detection and adjustment, attaining core skill accuracy metric while adhering to all range regulations.
After completion of the 2000 phase the accuracy metric for this event is dependent upon the pilot’s current designation (e.g. UHC requires refly of SWD-2605 meeting the Mission Skills accuracy metric).

Prerequisite. 2604

Ordnance. (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Raked or scored LASER safe range

Crew. WTO/PUI/CC/AG

SSWD-2606 1.5 * B NS S/A 1 UH-1Y

Goal. OS - To develop proficiency at ordnance delivery (HLL).

Requirements

Discuss
Night ordnance delivery effects
Rocket and gun switchology errors
IR LASER pointer usage and switchology
CRM regarding target acquisition and hand-off
Target/reticle fixation
Illumination delivery profiles and adjustments
Demonstrate/Introduce
IR LASER pointer usage and target handoff
Illumination delivery profiles (both preplanned and on-call)

Review
- Ordnance delivery profiles
- HMSD symbology and settings
- Aircrew coordination during ordnance evolutions
- APKWS employment

Performance Standards
- Successful employment of crew served weapons at ranges 300-1500 meters, 2.75 inch rockets at ranges from 500-1200 meters.
- Successful employment of APKWS at ranges from 1500-5000 meters utilizing all profiles exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.

Prerequisites. 2604

Ordnance. If flown in aircraft: (14) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], IR Pointer

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

Crew. NSI/PUI (NSI/PUI/CC/AG~AC)

SWD-2607 1.5 180 B.R,SC NS A 1 UH-1Y

Goal. OS - To refine ordnance delivery (HLL).

Requirements
- Discuss 2.75 inch rocket motors, warheads and fuses
- Rocket illumination considerations
- Section attack patterns
- Mutual support
- IR CAS and IR pointer techniques
- Correlation with aircrew
- NVD sighting procedures
- Terminal control briefs
- Attack routing

Demonstrate
- A RW CAS mission to include coordination with the terminal controller and section tactics

Introduce
- Marking procedures

Review
- Ordnance procedures
- Effects of ordnance delivery on NVDs
- Aircrew coordination
- Weapons preflight
- Arming/de-arming
- Buddy lase procedures (may be simulated)

Performance Standards
- PUI shall conduct crew served weapons delivery and attack profiles IAW the UH-1Y NATIP/NTTP. Successful employment of crew served weapons at ranges from 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters and APKWS at ranges from 1500-5000 meters exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.

Prerequisites. 2101, 2606

Ordnance. (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Live fire LASER safe range with thermally significant targets, if available
Goal. OS – Introduce ordnance delivery (LLL).

Requirements
Discuss
Penetration checklist procedures and techniques
LLL target acquisition difficulties
LLL ordnance delivery effects
Target/reticle fixation
LLL ordnance delivery scan techniques
HMSD symbology with respect to target handoff techniques and declutter modes
Arming/de-arming procedures
Introduce
LLL ordnance delivery
Review
APKWS employment profiles and CRM
Night ordnance delivery effects
Rocket and gun switchology errors
IR LASER pointer usage and switchology
CRM regarding target acquisition and hand-off
Illumination delivery profiles (both preplanned and on-call)

Performance Standards
Conduct arm/de-arm procedures and penetration/de-penetration checklists IAW ASTACSOP and local directives.
Detect and engage both point and area targets utilizing fixed forward guns and rocket attacks.
Successful employment of crew served weapons at ranges 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters, exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.
Successful employment of APKWS at ranges from 1500-5000 meters utilizing all profiles.
Conduct proper actions in response to simulated in-flight ordnance emergencies.

Prerequisites. 2607, NSQ-HLL (2102~AC)

Ordnance. If flown in aircraft: (14) 2.75 inch rockets and two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

Crew. NSI/PUI (NSI/PUI/CC/AG~AC)

Goal. OS – Review ordnance delivery (LLL).

Requirements
Discuss/Review
Ordnance nomenclature and rocket warhead/fuse combinations
LLL target acquisition difficulties
LLL ordnance delivery effects
Target fixation
LLL ordnance delivery scan techniques
HMSD symbology with respect to target handoff techniques, de-clutter modes
SOP arming/de-arming procedures
Ordnance delivery utilizing hover, running, diving fire
Buddy lase procedures (may be simulated)
Rocket illumination considerations
Section attack patterns
Mutual support
IR CAS and IR pointer techniques
NVD sighting procedures
Terminal control briefs
Attack routing

Performance Standards
Conduct crew served weapons and rocket attacks utilizing running, pop-up and hover delivery.
Conduct arm/de-arm procedures and penetration/de-penetration checklists IAW ASTACSOP and local directives.
Detect and engage both point and area targets utilizing crew served weapons and rocket attacks.
Successful employment of crew served weapons at ranges 300-1500 meters and 2.75 inch rockets at ranges from 500-1200 meters, APKWS at ranges from 1500-5000 meters utilizing all profiles exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.

Prerequisites. 2608, 2102

Ordnance. (14) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

Crew. NSI/PUI/CC/AG

SWD-2610  1.5  365  B,R,M  (NS)  A/S  1  UH-1Y

Goal. OS – Introduce moving target gunnery.

Requirements
Discuss
Unguided ordnance ballistics
Attack profiles and geometry in regards to moving targets
Sensor track considerations
LASER-guided weapons considerations
Reactive employment considerations
Introduce/demonstrate
Moving target gunnery

Performance Standards
Validate, using VTR, an effective ordnance engagement of a moving target.
Successful employment of the FF GAU-17 weapon system at ranges from 500-1100 meters and 2.75 inch rockets at ranges from 500-800 meters, exhibiting proper impact detection and adjustment, working towards core skill accuracy metric while adhering to all range regulations.
Successful employment of crew served weapons at ranges 300-1500 meters. Should employ on a target without exact distance cueing.

Prerequisites. SWD-2603 (SWD-2607–NS, SWD-2609–LLL)

Ordnance. (14) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range

External Syllabus Support. Moving target or 1 aircraft to provide a shadow

Crew. WTO(NSI)/PUI/CC/AG or (WTO(NSI)/PUI–SIM)

2.9.8 Familiarization (FAM)

Purpose. To develop and maintain familiarity with aircraft flight characteristics, limitations, and emergency procedures. To develop proficiency in all maneuvers, instrument flight and to instill basic CRM procedures.

General. PUI must demonstrate proficiency with all shore based FAM procedures to include normal/emergency procedures and basic aircraft maneuvers. Additionally, the PUI must display a thorough knowledge of limitations and flight characteristics.
Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

**FAM-2800** 1.5 180 B,R,SC,M (NS) A 1 UH-1Y

**Goal.** OS – Familiarization/instrument proficiency.

**Requirements**

Discuss
- Aircraft limitations
- Emergency procedures
- Aircraft systems
- Complacency in the cockpit
- Crew resource management

Review
- FAM stage maneuvers

**Performance Standards**

PUI shall perform all maneuvers IAW the UH-1Y NATOPS and MDG.

**Prerequisite.** 1901

**Crew.** BIP(NSI)/PUI/(CC/O)

**Note.** For those pilots assigned to the Refresher and Series Conversion POI. If CIX-1901 has been flown within the proceeding 90 days, they meet the Performance Standards of FAM-2800. Manual entry, i.e. baseline in M-SHARP with proficiency date of CIX-1901.

**SFAM-2801** 1.5 90 B,R,SC,M (NS) S 1 UH-1Y

**Goal.** OS - Review aircraft emergency procedures and systems failures.

**Requirements**

Review
- Emergency procedures knowledge
- Recognizing emergencies
- Applying appropriate procedures
- Full (simulator only) and power recovery autorotations

**Performance Standards**

Demonstrate the ability to operate the aircraft under all emergency conditions IAW the UH-1Y NATOPS. PUI shall complete a minimum of 5 autorotations IAW the UH-1Y NATOPS and MDG.

**Prerequisite.** 1901

**Crew.** CSI/PUI or (BIP(NSI)/PUI/(CC/O)–AC)

**SFAM-2802** 1.5 * B NS S 1 UH-1Y

**Goal.** RS - Perform NVD and aircraft emergency procedures during LLL conditions.

**Requirements**

Discuss
- Crew comfort level during LLL NVG operations
- Aircraft preparation for night operations
- NVD effects encountered during LLL conditions
- Use of the searchlight (covert/overt)
LLL Emergency procedures considerations
Inadvertent IMC (IIMC) procedures
LLL scheduling restrictions
Cockpit management during night operations

Introduce
Pattern work at unlighted and lighted landing sites
NVD/aircraft emergency procedures at unlighted and lighted landing sites
IIMC procedures

Review
Internal/external scan and HMSD usage
Low work scan and CRM
Landing profile

Performance Standards
PUI shall execute 5 landings at an unlighted site.
PUI shall execute 5 landings at a lighted site.
PUI shall execute 5 autorotations, minimum of 2 shall be unplanned to an unimproved surface.
PUI shall safely conduct NVD failures
PUI shall safely conduct aircraft emergencies IAW NATOPS.
Demonstrate proper knowledge of IIMC procedures IAW ASTACSOP.

Prerequisites. NSQ-HLL

Crew. NSI/PUI

2.9.9 Expeditionary Shore-based Site Operations

Purpose. To introduce day and night flight and ground operations from an expeditionary site.

General. IAW applicable directives, PUI will emphasize proper communication procedures, patterns, and aviation operations in RVL and FARP environments.

Refer to appropriate NATOPS, NTTP, ASTACSOP and Aircraft Refueling NATOPS Manual for FARP operations. An actual FARP, ADGR site is preferred but not required. Squadrons may elect to simulate one of these environments at an outlying field, austere landing zone(s) or other appropriate landing sites.

Expeditionary Operations shall be flown in conjunction with any Core/Mission Phase event once prerequisites are complete.

Aircraft should be configured with an operable NTIS and HMSD.

EXP-2900 1.5 180 B,R,SC,M D A 1 UH-1Y

Goal. OS - Conduct Reduced Visibility Landings (RVL)

Requirements
Discuss
Different types of reduced visibility conditions
Landing Profile and scan procedures for the approach, landing, and takeoff
Mandatory communications
Waveoff parameters and profile
Recommended waveoff parameters and use of HMSD
Common error identification and scan techniques

Demonstrate/Introduce
Reduced visibility landings
Waveoffs

Review
Tactical Landing Profile
Power Management Principles

Performance Standards
PUI shall conduct a minimum of (5) RVL approaches.
PUI shall conduct a minimum of (5) reduced visibility takeoffs.
PUI shall conduct a minimum of (2) waveoffs.
IP shall demonstrate proper transfer of controls in an RVL.

Prerequisites. 2402

Crew. BIP/PUI/CC

**EXP-2901**  1.5  180  B,R,SC,M  NS  A  1  UH-1Y

Goal. OS - Conduct NVD Reduced Visibility Landings (RVL).

Requirements
Discuss
- Different types of reduced visibility conditions
- Landing Profile and scan procedures for the approach, landing, and takeoff
- Mandatory communications
- Waveoff parameters and profile
- Recommended waveoff parameters and use of HMSD
- Common error indentification and scan techniques
- Aircraft lighting considerations
- Use of IR searchlight in an RVL

Demonstrate/Introduce
- NVD Reduced visibility landings
- Waveoffs in an RVL

Review
- Tactical Landing Profile
- Power Management Principles

Performance Standards
- PUI shall conduct a minimum of (5) RVL approaches.
- PUI shall conduct a minimum of (5) reduced visibility takeoffs.
- PUI shall conduct a minimum of (2) waveoffs.
- IP shall demonstrate proper transfer of controls in an RVL.

Prerequisites. 2403 (2405~LLL)

Crew. NSI/PUI/CC/AO

**EXP-2902**  0.0  *  B  D  A  1  UH-1Y

Goal. OS - Conduct day Expeditionary Shore-based Site Operations (FARP).

Requirements
Discuss
- FARP types
- FARP equipment
- FARP procedures and personnel
- Landing point markings
- Movement within the FARP
- Ordnance procedures
- FARP emergency procedures
- MMT communications/nets
- FARP OIC communications/nets
- ADGR platforms, equipment and capabilities
- Pax and MACO procedures

Introduce
- Day FARP operations
- Inbound & outbound formations and approaches

Review
Landing procedures to an unprepared surface

Performance Standards
- PUI shall conduct a FARP brief.
- PUI shall conduct a minimum of one (1) landing and one (1) takeoff.
- PUI should conduct refueling.

Prerequisites: 2090, 2100

External Syllabus Support: Actual or simulated FARP

Crew: BIP/PUI/CC

EXP-2903  0.0  180  B.R.M  NS  A/S*  1  UH-1Y

Goal: OS - Conduct NVD Expeditionary Shore-based Site Operations (FARP).

Requirements
Discuss
- Night landing point markings
- Aircraft lighting
- FARP types
- FARP equipment
- FARP procedures and personnel
- Movement within the FARP
- Ordnance procedures
- FARP emergency procedures
- MMT communications/nets
- FARP OIC communications/nets
- ADGR platforms, equipment and capabilities
- Pax and MACO procedures

Demonstrate/Introduce
- Night FARP operations

Review
- Landing procedures to an unprepared surface

Performance Standards
- PUI shall conduct a FARP brief.
- PUI shall conduct a minimum of one (1) landing and one (1) takeoff.
- PUI should conduct refueling.
- PUI shall conduct rendezvous and join-up procedures.

Prerequisites: 2090, 2101 (2404-LLL)

External Syllabus Support: Actual or simulated FARP

Crew: NSI/PUI/CC/AO
2.10 MISSION ACADEMIC PHASE (3000)

Purpose. To develop a Mission Phase proficient pilot. These academics facilitate understanding of operations in the UH-1Y and MAGTF level functions to ensure individuals possess the requisite knowledge to be designated Utility Helicopter Commander (UHC) and Forward Air Controller (Airborne) [FAC(A)].

General. These academics are intended to be an integrated series of academic lectures, readings and practical application contained within each phase of training. The lectures, readings and chalk-talks are contained in the MAWTS-1 UH-1 Course Catalog. The academic courseware is a requirement. At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the individual pilot, contract instructor or squadron operations personnel, as appropriate. The codes listed below associated with these classes may NOT be the most up to date as the current UH-1 Course Catalog is the master document for stage academic requirements.

Mission Skill academic events are listed below.

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*Indicates classes that should be presented to all pilots annually.

2.11 MISSION PHASE (3000)

Purpose. To produce a Mission Phase proficient pilot. Upon completion of the Mission Phase, pilots should be proficient in Mission Essential Tasks.

General. Upon completion of the Mission Phase, pilots may be designated Utility Helicopter Commander (UHC) and Forward Air Controller (Airborne) [FAC(A)].

Completion of the Core Phase and the ESC, CAT, AE, OAS, and TRAP Stages of the Mission Phase meet the requirements for the PUI to be eligible for the DESG-6398 (UHC Evaluation flight). Upon completion of the
DESG-6398 and refly of SWD-2605 meeting Mission Skills ordnance accuracy standards, and at the discretion of the squadron commanding officer, a letter designating the PUI as an UHC shall be placed in the NATOPS jacket and APR.

Completion of the FAC(A) Stage and compliance with the JFAC(A) MOA meet the requirements for the PUI to be FAC(A) qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as FAC(A) qualified shall be placed in the NATOPS jacket and APR.

Prior to completion of the Core/Mission Phases, Expeditionary Shore Based (FARP) Operations shall be conducted. EXP-2902 through EXP-2903 shall be logged in conjunction with any Core or Mission Phase event.

Stages. The following Stages are included in the Mission Phase of training.

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<td>Forward Air Controller (Airborne) FAC(A)</td>
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<td>2.11.7</td>
<td>Tactical Recovery of Aircraft Equipment and Personnel (TRAP)</td>
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Ordnance Delivery. At the completion of this Phase, the PUI will have demonstrated increased accuracy during ordnance delivery and proper use of the NTIS under all threat conditions with mixed ordnance loads. At the completion of the OAS syllabus, prior to UHC (DESG-6398), the PUI shall refly SWD-2605 and will be required to meet the Mission Skills ordnance accuracy metric. SWD should be conducted on raked/scored ranges whenever possible. Focus should be on weapons delivery profiles and ordnance accuracy, not tactical scenarios. VTR debrief should be used to the maximum extent possible. Emphasis will be on CRM and Risk Management (RM) while utilizing the ordnance systems.

IPs shall evaluate ordnance effectiveness based on the following accuracy metrics.

<table>
<thead>
<tr>
<th>MISSION SKILL</th>
<th>UNGUIDED ROCKET STANDARD</th>
<th>GUN STANDARD</th>
<th>PURPOSE</th>
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<tbody>
<tr>
<td></td>
<td>-In correct profile per NTTP</td>
<td>-On target within 3 seconds of trigger pull</td>
<td>-Based upon M151 Effective Casualty Radius (ECR)***</td>
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<td>-No miss greater than 100 meters</td>
<td>-Crew served: crew coordination sufficient to achieve AG metric.</td>
<td>-Demonstrates the ability to damage targets</td>
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<tr>
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<td>-CE90≤50 meters**</td>
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<tr>
<td></td>
<td>-(1) rocket must impact within 10 meters</td>
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** CE90 example: SWD-2603 requires (7) 2.75" rockets. CE90≤50 meters requires that 90% of the delivered rockets impact within 50 meters of the target. In order to calculate, simply disregard the worst 10% of rockets released and the remaining farthest SINGLE MISS DISTANCE = CE90. Conservative rounding is applied.

Examples:
- 3-10 rockets released ~ disregard one rocket, SECOND FARTHEST MISS = CE90
- 11-20 rockets released ~ disregard two rockets, THIRD FARTHEST MISS = CE90
- In no case can a single rocket miss the intended target by more than 100m, including the omitted rounds for CE90 calculation.

*** Effective Casualty Radii (ECRs) are generic distances intended to be applied versus the anticipated target set for a particular weapon, based primarily upon explosive yield and warhead/fuse characteristics. Variables to weapon effectiveness include target vulnerability and composition of underlying terrain. Weapons that impact the target vicinity at distances beyond the warhead’s ECR are predicted to be ineffective for target damage.

APKWS- Correct switchology, proper LASER placement, profile IAW UH-1 NTTP, direct hit.
TOTs - Initial ordnance shall be delivered within +/- 30 seconds of established TOT.

During this Phase, one of the night ordnance events shall employ (4) 2.75 inch illumination rockets (i.e. M257/M278). Illumination employment shall be evaluated on effectiveness and account for wind, elevation, delivery and flight release parameters. SOTC-6900 shall be logged in conjunction with the appropriately flown sortie.

During this Phase, one of the ordnance events shall employ (4) 2.75 inch Advanced Precision Kill Weapons System (APKWS) rockets. APKWS employment shall be evaluated on effectiveness, delivery and flight release parameters. SOTC-6901 shall be logged in conjunction with the appropriately flown sortie.

During this Phase one of the ordnance events shall employ (4) 2.75 inch flechette rockets. Flechette employment shall be evaluated on effectiveness, delivery and flight release parameters. SOTC-6902 shall be logged in conjunction with the appropriately flown sortie.

Navigational Accuracy. At the completion of this Phase, the PUI will have demonstrated increased navigational accuracy and timeliness during assault support operations, under varied threat conditions. At the completion of the CAT Stage, prior to UHC (DESG-6398), the PUI shall demonstrate the ability to meet the Mission Skills combat assault transport accuracy metric. PUI shall land within +/- 30 seconds of the assigned L-Hour and within 50 meters of the planned landing point. During RIE/external profiles or urban landings, the PUI must land directly to the intended spot. IP shall use MPS or aircraft systems to assess landing point accuracy.

2.11.1 Escort (ESC) Purpose. To develop proficiency in prescribed airborne and surface escort formations and maneuvers.

General. The pilot will develop a detailed understanding and functional knowledge of escort formations, maneuvers and techniques associated with assault support and surface operations. Ordnance is not required for each event in this stage, but is required for at least one event in the escort stage. If ordnance is utilized, the PUI shall have completed the Core Skills SWD flight corresponding to the appropriate ordnance load and event condition.

Aircraft should be configured with an operable NTIS, VTR, HMSD, (also LTD/LRF, APR-39, AAR-47, ALE-47, and IR Pointer if ordnance is utilized).

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

SESC-3100 1.5 365 B,R,M D S/A 2 1 UH-1Y & 1 H-1

Goal. OS - Demonstrate and introduce day and night assault support escort mechanics in a low to medium threat environment.

Requirements

Discuss
Purpose of escort
EFL responsibilities
Categories of assault support
Six missions of assault support escort
Assault support escort techniques
Advantages/disadvantages of escort techniques
Escort terminology/required communications
Tilt-rotor considerations
LZ clearance procedures and communication
Threat reaction calls and mechanics

Demonstrate/Introduce
Enroute attached and detached profiles and threat reactions
Attached and detached profiles and threat reactions in an objective area
Objective area flow and communications
Objective area fires integration/deconfliction
LZ coverage patterns and ordnance delivery procedures

Performance Standards
PUI shall exhibit a thorough understanding of escort responsibilities and techniques
PUI shall conduct proper enroute attached and detached escort and threat reactions
PUI shall conduct (2) attached and (2) detached escort profiles and threat reactions in an objective area
PUI shall use correct terminology and techniques for LZ reconnaissance and coverage.

Prerequisite. 3004, 3011, 3012, 2604

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire and LASER safe range, if required

External Syllabus Support. Device operator. If in aircraft, one or more assault support aircraft

Crew. WTO/PUI/CC/AO(AG)

ESC-3101 1.5 * B D A 2 1 UH-1Y & 1 H-1

Goal. OS - Demonstrate and introduce day assault support escort in a low to medium threat environment.

Requirements
Discuss
Escort/assault integration and deconfliction
Fires planning (LZ clearance, supporting arms, DAS to CAS transition, sectors of fire integration)
LZ Reconnaissance/scan techniques
Precision-guided munition usage during escort missions
AMC/AFL/EFL relationship
Integration of Fixed wing assets escort procedures
Waveoff criteria and actions
Demonstrate/Introduce
Assault support escort mission planning
LZ reconnaissance and scan patterns
Objective area fires integration
Review
Attached/detached/combined escort profiles
Enroute attached and detached profiles and threat reactions
Attached and detached profiles and threat reactions in an objective area
Reactive ordnance employment

Performance Standards
PUI shall conduct the EFL brief.
PUI shall exhibit a thorough understanding of assault support escort responsibilities and assault support operations IAW the UH-1Y NTTP and ASTACSOP.
PUI shall properly plan for and employ escort assets in the objective area.
PUI shall conduct enroute attached escort of assault support aircraft.
PUI shall properly employ escort techniques and patterns for assigned mission.
PUI shall integrate fire support in objective area (if required).
PUI shall use correct terminology and techniques for LZ clearance and coverage.

Prerequisites. 3011, 3012, 3100

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range
External Syllabus Support. One or more assault support aircraft

Crew. WTO/PUI/CC/AO(AG)

ESC-3102 1.5 365 B,R,M NS A/S* 2 1 UH-1Y & 1 H-1

Goal. OS - Demonstrate and introduce night assault support escort in a low to medium threat environment.

Requirements

Discuss
Night LZ clearance/coverage techniques and procedures
Night escort techniques/procedures
ASTACSOP assault support aircraft lighting
Night formation, lighting and threat detection
Supporting arms coordination
NTIS and IR Pointer usage

Demonstrate/Introduce
Rendezvous procedures with assault support aircraft at night
Tactical employment of ordnance in close proximity to assault aircraft en route and in the LZ (objective area)
LZ coverage and scan patterns
ITG with IR pointer

Review
Assault support escort mission planning
LZ reconnaissance and scan patterns
Objective area fires integration
Ordnance delivery procedures with NVDs
Attached/detached/combined escort profiles
Objective area flow and communications

Performance Standards
PUI shall plan, brief and execute an assault support escort mission in a medium threat environment, with a specific focus on contingencies and threat reaction.
PUI shall exhibit a thorough understanding of assault support escort responsibilities and assault support operations IAW the UH-1Y NTTP and ASTACSOP.
PUI shall properly plan for and employ escort assets in the objective area.
PUI shall conduct enroute attached escort of assault support aircraft.
PUI shall properly employ escort techniques and patterns for assigned mission.
PUI shall integrate fire support in objective area (if required).
PUI shall utilize IR Pointer for initial terminal guidance to LZ or to alert crews to a simulated enemy position.
PUI shall use correct terminology and techniques for LZ clearance and coverage.

Prerequisite. 3101, 2403, 2102~LLL, 2607~NS ORD, 2609~LLL ORD

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire and LASER safe range, if required

External Syllabus Support. One or more assault support aircraft

Crew. NSI/PUI/CC/AO(AG)

SESC-3103 1.5 365 B,R (NS) S/A 2 1 UH-1Y & 1 H-1

Goal. OS - Introduce surface force escort operations in a low to medium threat environment.

Requirements

Discuss
Surface force units needs
Surface force escort procedures and techniques
Escort profiles
Terminal controller procedures and communications (enroute/objective)
Non-JTAC qualified convoys
PID and ROE considerations
Tactical employment of ordnance in close proximity to surface vehicles
Ordnance employment in support of GCE scheme of maneuver
Ordnance fragmentation patterns
Fire support planning/integration with the supported unit
Fixed Wing integration
Escort fire support coordination
Methods of escort, route and objective clearance/coverage techniques and procedures
Introduction
Route coverage patterns
Targets of opportunity
Actions in the objective area
Ordnance delivery techniques and procedures ISO convoy operations

Performance Standards
PUI shall exhibit a thorough understanding of surface force escort responsibilities in support of the GCE scheme of maneuver.
PUI shall properly plan and employ escort assets enroute and in objective area.
PUI shall properly employ escort techniques and patterns for the assigned mission.
PUI shall integrate fire support assets enroute and in the objective area (if required).

Prerequisites. 2604 (2403-NS, 2102-LLL, 2607-NS ORD, 2609-LLL ORD, NSQ-HILL-NS)

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range

External Syllabus Support. Device operator. If flown in aircraft: one ground/amphibious unit, minimum 3 vehicles.

Crew. WTO(NSI)/PUI/CC/AO(AG) (WTO(NSI)/PUI)

2.11.2 Combat Assault Transport Operations (CAT)

Purpose. To develop procedures and skills to tactically employ the UH-1Y, while conducting a variety of combat assault transport missions, under varying threat conditions.

General. Upon the completion of each CAT Event the pilot will be tactically proficient in the planning, briefing and execution of that particular mission profile. Upon completion of the CAT Stage, the pilot will be Mission Skill proficient for CAT.

Aircraft shall be configured with an operable HMSD, NTIS, VTR and appropriate mission kit. Aircraft should be configured with an operable APR-39, AAR-47, ALE-47 and IR Pointer (night events) to the maximum extent practical.

Actual embarked troops shall be utilized on at least one combat assault transport event. Actual embarked troops should be incorporated to the maximum extent practical, but in the event that support is not available, the IP can simulate these assets during the conduct of a sortie (with the exception of initially flown CAT-3201 and CAT-3202).

The initial CAT-3201 and CAT-3202 shall be performed with actual ropers. Proficiency may be maintained by conducting RIE profiles with simulated ropers.

Actual ordnance for crew served weapons should be incorporated to the maximum extent practical. The 3204 shall carry and employ live crew-served ordnance ISO tactical execution if flown in the aircraft.

The CAT-3205 (or CAT-3204 if flown in aircraft) initial events requires 2 x UH-1Y; however, all refly codes may be logged with 1 x UH-1Y and 1 additional helicopter.
Crew Requirements.  As listed at the end of each Event.

Ground/Academic Training.  IAW MAWTS-1 UH-1 Course Catalog.

**GCAT-3200**

**Goal.** OS - Familiarize aircrew with the utility configurations and planning factors on the UH-1Y

**Requirements**

**Discuss**
- ARAS authorized configurations and restrictions
- Operations procedures and limitations of the hoist and gantry systems
- Cabin preparation
- Passenger and cargo securing procedures
- CG considerations
- On/Off drills
- Mission rehearsals
- PZ operations
- TFOA avoidance
- MACO markings

**Demonstrate/Introduce**
- Power management planning
- Fastrope / rappel ingress, approach, objective area, egress and join-up
- RIE specific communication
- Fouled rope / hung roper procedures

**Performance Standards**
- Aircrew shall conduct configuration familiarization at a minimum with the Gantry, Hoist, ARAS, and Litters.
- Aircrew shall facilitate On/Off Drills for passengers
- Aircrew shall load, secure, and unload cargo
- Aircrew shall load simulated casualties via litters

**Prerequisite.** 2402, 3021, 3022

**Ordnance (Optional).** Crew served weapons.

**Range Requirement.** None

**External Syllabus Support.** None

**Crew.** WTO/PUI/CC

**CAT-3201**

**Goal.** OS - Develop proficiency in tactical fastrope/rappel operations.

**Requirements**

**Discuss**
- Insertion techniques and planning considerations
- Aircrew coordination/CRM during HRST operations
- Emergencies with ropers
- Fastrope/rappel profiles
- Specific RIE communication
- Zone selection considerations and power requirements
- Threat mitigation/gunner threat reaction
- Left seat / right seat considerations
- HRST master briefing requirements
- HIE manual / applicable local orders

**Demonstrate/Introduce**
- Power management planning
- Fastrope / rappel ingress, approach, objective area, egress and join-up
- RIE specific communication
Fouled rope / hung roper procedures
Review
Aircraft rigging/configuration
Discuss Crew Restraint System (CRS) and components
Cabin management
Straight-in approach (IP to LZ) with timing
Environmental impacts on LZ selection

Performance Standards
PUI shall produce applicable LZ diagram(s) IAW UH-1 NTTP and conduct the HRST brief.
A minimum of one fastrope/rappel site shall be selected with associated IP and timing. A minimum of 2 ingress profiles will be accomplished and a total of three insertions of two ropers will be completed.
Performance standards are +/- 30 sec and insertion to the fastrope/rappel site.

Prerequisite: 2402, 3200

Ordnance (Optional). Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Simulated/actual rooftop or landing point (authorized fastrope/rappel site).

External Syllabus Support. HRST Master and at least two ropers

Crew. WTO/PUI/CC/AO(AG)

CAT-3202 1.0 365 B,R,M NS A 1 UH-1Y

Goal. OS - Develop proficiency in tactical fastrope/rappel operations at night.

Requirements
Discuss
RIE tactical approaches, landings and departures
Waveoff criteria
Selection of alternate zone for RIE or landing
NVD considerations for RIE operations
Environmental considerations for RIE execution
Cultural lighting considerations
Demonstrate/Introduce
RIE section mechanics
Fastrope/rappel ingress, approach, objective area and join-up at night

Performance Standards
PUI shall conduct a Utility Brief, to include section considerations.
PUI shall plan and brief a tactical scenario with a simulated section.
A minimum of one fastrope/rappel site shall be selected with associated IP and timing. A minimum of 2 ingress profiles will be accomplished and a total of three insertions of two ropers will be completed.
Performance standards are +/- 30 sec and insertion to the fastrope/rappel site.

Prerequisite. 3201, 2403~NS, NSQ-HLL~NS, NSQ-LLL and 2405~LLL

Ordnance (Optional). Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Simulated/actual rooftop or landing point (authorized fastrope/rappel site).

External Syllabus Support. HRST Master and at least two ropers

Crew. NSI/PUI/CC/AO(AG)

SCAT-3203 1.5 365 B,R,M (NS) S/A 2 UH-1Y

Goal. OS - Conduct an insert/extract mission in a medium threat, urban, and contested environment.
Requirements
Discuss
Urban navigation procedures
Map preparation/GRG usage
Urban night operations
Urban threat considerations
Ingress/egress profiles in urban terrain
Zone identification in an urban environment
IP, LZ selection considerations
AFL responsibilities and authority
Mission criteria (Go, No-Go, LZ Criteria)
Far/near ITG
Night landing point marking
ASSAT/ASLT
Accountability procedures
Aircraft MACO markings
Sensor integration
Wave sequencing
Illumination support
Deception planning/execution
Aural/visual detection considerations
Degraded navigation procedures
Contingencies in an urban environment
Demonstrate/Introduce
Insert/extract in a urban environment
Urban navigation
ITG in urban environment
GRG usage
Review
Power management, fuel planning and route selection
Aircraft configuration
LZ and alternate LZ planning
Pickup Zone (PZ) planning
Actions on contact
Contingency planning

Performance Standards
PUI shall conduct AFL brief.
PUI shall land within +/- 50m from landing point within +/- 30 seconds of L-hour.

Prerequisite
2403, 3200, NSQ-HLL~NS, 2403~HLL, 2405~LLL, 2604~ORD

Ordnance (Optional)
Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement
Live fire LASER safe range if flown in aircraft

External Syllabus Support
Embarked troops if flown in aircraft

Crew
NSI/PUI/[NSI/PUI/CC/OA(AG)~AC]

SCAT-3204  1.5  365  B.R,SC,M  NS  S/A  2  UH-1Y

Goal
OS - Conduct an insert/extract or raid in a medium threat environment incorporating fires.

Requirements
Discuss
Deception planning/execution
Aural/visual detection considerations
Section illumination procedures
Section LZ reconnaissance
Demonstrate/Introduce
Insert/extract
Section LZ reconnaissance
Review

Far/near ITG
Day/night landing point marking
ASSAT/ASLT
Accountability procedures
Aircraft MACO markings
Sensor integration
Wave sequencing
Illumination support
Power management, fuel planning and route selection
Aircraft configuration
AFL responsibilities and authority
Mission criteria (Go, No-Go, LZ Criteria)
LZ and alternate LZ planning
Pickup Zone (PZ) planning
Escort requirements
Actions on contact
Contingency planning
Actions on contact
RVL procedures

Performance Standards

PUI shall conduct AFL brief.
PUI shall land within +/- 50m from landing point within +/- 30 seconds of L-hour.
Brief alternate section illumination procedures.
Conduct section LZ reconnaissance.

Prerequisite  2403, 2405, 3203, NSQ-HLL~NS, NSQ-LLL~LLL, 2604 (2607~NS ORD, 2609~LLL ORD)

Ordnance (Optional)  Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement  Live fire LASER safe range

External Syllabus Support  Embarked troops

Crew  WTO(NSI)/PUI/CC/AO(AG)

CAT-3205  2.0  365  B,R,SC,M  NS  A/S*  2  UH-1Y

Goal  OS – Tactically employ the UH-1Y in a long range CAT mission in a low to medium threat environment.

Requirements

Review

Power management, fuel planning and route selection
Aircraft configuration
AFL responsibilities and authority
Mission criteria (Go, No-Go, LZ Criteria)
LZ and alternate LZ planning
Pickup Zone (PZ) planning
Escort requirements
Far/near ITG
Contingency planning
On/off drills
Post insert actions
Extract plan
Raid specific considerations
Degraded navigation techniques and systems integration
Map preparation
Cockpit management
Use of ground speed for enroute planning
MINCOM procedures
Terrain analysis

Performance Standards
PUI shall plan a route consisting of no less than 100NM from the PZ to the LZ and conduct the AFL brief.
PUI shall land within +/- 50m from landing point within +/- 30 seconds of L-hour.
PUI shall conduct the AFL brief

Prerequisites. 3021,3022,3200,3204, NSQ-HLL, NSQ-LLL

Ordinance (Optional). Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Live fire LASER safe range

External Syllabus Support. Embarked troops

Crew. NSI/PUI/CC/AO(AG)

2.11.3 Casualty Evacuation (AE)

Purpose. To develop the ability to perform CASEVAC operations.

General. AE-3206 is a tracking code only and shall be performed in conjunction with any 3000 Phase Event. Upon the completion of the AE Event, the pilot will be considered capable of performing CASEVAC.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

AE-3206 0.0 365 B.R.M (NS) A 1 UH-1Y

Goal. OS - Tactically employ UH-1Y as a CASEVAC platform

Requirements. Conduct a CASEVAC in conjunction with any 3000 Phase event.

Discuss
CASEVAC planning considerations
CASEVAC mission assignment
Patient priority
Asset allocation
Medical facilities and levels of care
Patient Evaluation Team (PET) and location
Patient loading
CASEVAC flight procedures
Casualty Evacuation Request Joint Army 9-Line/NATO 10-Line
CASEVAC cabin configuration

Demonstrate/Introduce
Casualty evacuation procedures

Evaluate
Contingency CASEVAC execution procedures

Performance Standards
PUI shall brief CASEVAC procedures IAW the UH-1 NTTP.

Prerequisites. 2400 (2403–NS, 2405–LLL), 3023, 3200

2.11.4 Close Air Support (CAS)

Purpose. To develop procedures and skills to tactically employ the aircraft while conducting CAS missions under varying threat conditions.

General. Upon completion of this stage the pilot will be proficient in the planning, briefing and execution aspects of CAS missions. In additional, the pilot will be proficient in the operation and employment of all organic weapons systems.
Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Actual TACP, and indirect fire asset support should be incorporated to the maximum extent practical, but in the event that support is not available, the IP can simulate these assets during the conduct of a sortie.

**Crew Requirements.** As listed at the end of each event.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog.

**SCAS-3300  1.5  *  B  D  S  1  UH-1Y**

**Goal.** OS - Introduce RW CAS missions in a rural and urban environments in day, low to medium threat environment.

**Requirements**

**Discuss**

Execution Template IAW TACP TACSOP

CAS check-in brief

Nine line and five line attack briefs

Battle position selection

Plotting BPs/HA

Holding area selection

Movement from HAs to BPs

Objective area timing

CRM and lookout doctrine in the tactical environment

Day and night CAS considerations

**Demonstrate/Introduce**

CAS check-in brief

9-line attack brief

5-line attack brief

IR CAS terminology and use

Tactical RW CAS missions during both day and night

Move from a low to medium threat environment during the sortie utilizing CAS mission briefs

with and without target marks

**Review**

All ordnance delivery procedures

Buddy lase procedures

**Performance Standards**

PUI shall exhibit a thorough understanding of the CAS mission brief and standard fire support coordination measures used when providing RW CAS.

PUI shall conduct a minimum of six (6) RW CAS missions (3 day and 3 night) utilizing rockets and crew-served weapons.

PUI shall demonstrate a detailed understanding and functional knowledge of all weapons systems, common trouble shooting techniques and delivery techniques.

**Prerequisites.** 3030 through 3033, 2201, 2301, 2604

**Crew.** WTO/PUI

**SCAS-3301  1.5  *  B,SC  D  A  2  1 UH-1Y & 1 H-1**

**Goal.** OS - Provide RW CAS to ground forces in a day-time, low threat environment.

**Requirements**

**Discuss**

Objective area timing

Attack and cover elements
NAVMC 3500.20D
24 Nov 21

UH-1Y weapons integration/synchronization with GCE assets and scheme of maneuver
Friendly marking techniques/procedures
Identification of friendly/enemy positions
MACCS integration
Demonstrate/Introduce
Tactical RW CAS missions utilizing CAS mission briefs
Integration of utility helicopters into the ground scheme of maneuver
Conduct CAS with and without a visual mark
Conduct CAS in a low to medium threat environment
Integration of FW CAS and indirect fire assets into objective area mechanics

Review
Fire Support Coordination Measures
Types of terminal attack control
BP location
HA to BP movement
Ordnance delivery per NTTP
CRM principles during RW CAS
Buddy lase procedures (may be simulated)

Performance Standards
PUI shall utilize mission planning software to conduct elevation analysis and line of sight communication considerations.
PUI shall brief the objective area portion of the OAS brief.
PUI shall conduct all missions utilizing CAS procedures and communications.
PUI shall conduct a minimum of four (4) RW CAS missions utilizing CAS mission briefs.
IP shall ensure all attacks adhere to assigned attack brief parameters and restrictions.
PUI shall achieve the desired effects as stipulated by the terminal controller.
PUI shall ensure all missions are within 30 seconds of TOT during engagements or fall within the assigned engagement window.

Prerequisites. 3300

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range

External Syllabus Support. TACP

Crew. WTO/PUI/CC/AG

CAS-3302 1.5 180 B,R,SC,M NS A/S 2 1 UH-1Y & 1 H-1

Goal. OS - To provide RW CAS to ground forces at night in a low threat environment.

Requirements
Discuss
Night/IR marking methods
IR CAS terminology and use
Employment capabilities of the FLIR
Sensor management
Terminal attack control procedures at night
CRM during night RW CAS missions

Demonstrate/introduce
Friendly position marking techniques and procedures
Tactical RW CAS missions at night with NVDs utilizing CAS Mission briefs
Conduct CAS in a medium threat environment

Review
J-LASER terminology
IR pointer usage
Integration of utility helicopters into the ground SOM
Friendly marking techniques/procedures
Identification of friendly/enemy positions
Objective area timing
Buddy lase procedures (may be simulated)

Performance Standards
- PUI shall brief the objective area portion of the OAS brief.
- PUI shall conduct a minimum of four (4) NVD RW CAS missions utilizing CAS mission briefs.
- PUI shall conduct all missions utilizing CAS procedures and communications.
- IP shall ensure all attacks adhere to assigned attack brief parameters and restrictions.
- PUI shall achieve the desired effects as stipulated by the terminal controller.
- PUI shall ensure all missions are within 30 seconds of TOT during engagements or fall within assigned engagement window.
- IP shall validate, using video, an effective engagement of a point target.

Prerequisites. 2102, 3301 (2609-LLL)

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range

External Syllabus Support. TACP

Crew. NSI/PUI/CC/AG

Goal. OS - Provide CAS to ground forces at night during LLL conditions in a medium threat environment.

Requirements
- Discuss
  - MACCS agencies and integration
  - J-LASER terminology
  - Elevation analysis and line of sight communication considerations as a part of mission planning
- Demonstrate/Introduce
  - Night CAS in a medium threat environment
  - Integration of FW CAS and indirect fires assets into objective area mechanics

Performance Standards
- PUI shall brief objective area portion of the OAS brief.
- PUI shall conduct a minimum of four (4) RW CAS missions utilizing CAS mission briefs.
- PUI shall conduct all missions utilizing CAS procedures and communications.
- IP shall ensure all attacks adhere to assigned attack brief parameters and restrictions.
- PUI shall ensure the desired effects as stipulated by the terminal attack controller.
- PUI shall ensure all missions are within 30 seconds of TOT during engagements or fall within the assigned engagement window.
- PUI shall utilize mission planning software to conduct elevation analysis and line of sight communication considerations.

Prerequisites. 2609, 3302

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. TACP

Crew. NSI/PUI/CC/AG

Goal. OS - Provide CAS to ground forces at night during LLL conditions in a medium threat environment.

Requirements
- Discuss
  - MACCS agencies and integration
  - J-LASER terminology
  - Elevation analysis and line of sight communication considerations as a part of mission planning
- Demonstrate/Introduce
  - Night CAS in a medium threat environment
  - Integration of FW CAS and indirect fires assets into objective area mechanics

Performance Standards
- PUI shall brief objective area portion of the OAS brief.
- PUI shall conduct a minimum of four (4) RW CAS missions utilizing CAS mission briefs.
- PUI shall conduct all missions utilizing CAS procedures and communications.
- IP shall ensure all attacks adhere to assigned attack brief parameters and restrictions.
- PUI shall ensure the desired effects as stipulated by the terminal attack controller.
- PUI shall ensure all missions are within 30 seconds of TOT during engagements or fall within the assigned engagement window.
- PUI shall utilize mission planning software to conduct elevation analysis and line of sight communication considerations.

Prerequisites. 2609, 3302

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. TACP

Crew. NSI/PUI/CC/AG
NAVMC 3500.20D
24 Nov 21

Goal. OS– Review urban CAS in a low to medium threat environment.

Requirements
Discuss
Urban terrain considerations
Line of sight considerations for weapons and communications
Weapon selection
ROE/PID
Collateral Damage Estimation(CDE)
Gridded Reference Graphic(GRG)
LASER spot/LGW considerations
Urban threat considerations

Introduce/Demonstrate
GRG usage

Performance Standards
PUI shall brief objective area portion of the OAS brief.
PUI shall remain oriented within 1 city block for navigation.
PUI shall receive, coordinate and execute a minimum of four (4) RW CAS missions utilizing 5-line or 9-line attack briefs.
PUI shall conduct urban targeting using a gridded reference graphic (GRG).
PUI shall integrate with GCE maneuver and fire support plan.

Prerequisites. 3301 (3302–NS, 3303–LLL)

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range, if required

External Syllabus Support. JTAC with appropriate marking devices (if available), suitable urban environment or MOUT facility

Crew. WTO(NSI)/PUI/CC/AO(AG)

2.11.5 Strike Coordination And Reconnaissance (SCAR)

Purpose. To develop procedures and skills to tactically employ the aircraft while conducting SCAR/AR missions under varying threat conditions.

General. Upon completion of this stage the pilot will be proficient in the planning, briefing and execution aspects of SCAR/AR missions. In addition, the pilot will be proficient in the operation and employment of all organic weapons systems.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Actual fixed wing aircraft, MACCS agencies and indirect fire asset support should be incorporated to the maximum extent practical. In the event that support is not available, the IP can simulate these assets during the conduct of a sortie.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

SCAR-3305 1.5 730 B,R,M (NS) A/S 2 1 UH-1Y & 1 H-1

Goal. OS - Conduct an armed reconnaissance mission in a low to medium threat environment.
Requirements
Discuss
Primary purpose of AR
AR planning considerations
Named areas of interest (NAI)
Target areas of interest (TAI)
Modified combined obstacle overlay (MCOO)
High, medium, and low threat levels
Threat radar planning considerations with the emphasis on mission planning systems
Radar terrain masking
Global Area Reference System (GARS)
Kill boxes

Review
IFREP/MISREP procedures
Traveling, traveling overwatch, bounding overwatch procedures
Intelligence collection and dissemination procedures

Performance Standards
PUI shall give the entire OAS brief.
PUI shall demonstrate a basic knowledge of AR planning, execution and mechanics.
PUI shall achieve successful destruction of targets of opportunity (TOO) utilizing correct weapons-to-target methodology and standard weapons delivery profiles.
IP shall validate, using the VTR, an effective APKWS engagement of a point target.
PUI shall consolidate BDA and pass through appropriate MACCS channels.

Prerequisites. 3035, 2102, 2201, 2301, 2604 (2607-NS, 2609-LLL)

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets

Crew. WTO(NSI)/PUI/CC/AG

SCAR-3306 1.5 365 B.R,M (NS) S/A 2 1 UH-1Y & 1 H-1

Goal. OS - Conduct a SCAR mission in a medium threat environment.

Requirements
Discuss
SCAR planning considerations
Suppression of Enemy Air Defense (SEAD)
Destruction of Enemy Air Defense (DEAD)
Sensor capabilities
Target Priority List (TPL)
Joint Surveillance and Target RADAR System (JSTARS)
Targeting process
MACCS integration for deep battle operations
Organic MAGTF EW capabilities/limitations
IPB process
Global Area Reference System (GARS)
Kill boxes

Review
FSCMs
MACCS
ROE/PID considerations
JMEMs/JWS
Weapon to target match
IFREP/MISREP procedures
Traveling, traveling overwatch, bounding overwatch procedures
Intelligence collection and dissemination procedures
Performance Standards

PUI shall conduct the OAS brief.
PUI shall demonstrate a basic knowledge of SCAR planning, execution and mechanics.
PUI shall properly employ all ASE IAW UH-1Y NTRP.
PUI shall achieve the desired effects (as stipulated by the mission objectives) on at least two (2) known targets with timely, accurate engagements with minimal exposure time as the SCAR while using proper weapon to target match.
IP shall validate, using video, an effective PGM engagement of a point target.
PUI shall consolidate BDA and pass through appropriate MACCS channels.

Prerequisites

3305

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. FW or RW aircraft

Crew. NSI/PUI (WTO(NSI)/CC/AG~AC)

2.11.8 Forward Air Controller (Airborne) [FAC(A)]

Purpose. To qualify PUI as a FAC(A) in accordance with applicable directives.

General. PUI shall be designated PQM (DESG-6300) to conduct FACA-3400, and UHC (DESG-6398) for all subsequent events. Nonqualified aircrew shall fly FACA-3401 through FACA-3405 with a FAC(A)I.

At the completion of this stage, the PUI should have demonstrated a thorough knowledge of CAS and FAC(A) procedures used to control RW and FW aircraft and supporting arms under varied environmental and threat conditions.

FAC(A) training requirements are listed in the most recent JFAC(A) MOA and the T&R Program Manual, Chapter 3. The JFAC(A) MOA can be found on the MAWTS-1 Webpage at: https://mceits.usmc.mil/sites/mawts1/SitePages/JFAC(A).aspx.

Upon successful completion of this stage and compliance with JFAC(A) MOA certification requirements, the commanding officer may issue the PUI a T&R FAC(A) qualification as well as a JFAC(A) MOA FAC(A) certification.

The JFAC(A) MOA dictates that specific control tasks (i.e. day/night, use of LTD/IR PTR, type of control, etc) be completed for certification. This T&R manual does not dictate on which events every control task requirement must be completed. Squadron operations staff and FAC(A)Is are therefore responsible for ensuring that PUI complete the required number of each control task IAW the current Joint FAC(A) MOA.

For T&R events not integrated with a live TACP, the FAC(A)I may simulate the TACP.

FAC(A)-3404 is annotated as an (NS) sortie. If this event is an initial sortie for the PUI, it SHALL be flown at night. Subsequent flights of this event can be flown day or night.

Two of the controls during the initial POI shall be under contested/highly contested conditions. A “contested/highly contested” control is defined as a control where the target area threat level dictates that the FAC(A) and/or attacking aircraft must use threat counter-tactics, countermeasures, or maintain stand-off prior to the target attack run. The FAC(A) must use a tactical scenario which requires a full 9-line CAS attack brief (IP to target area).

In order to ensure compliance with the JFAC(A) MOA qualification standards, FAC(A)s shall complete a FAC(A) evaluation/assessment (FAC(A)-3405) every 24 months and a standardized ATF shall be written by the supervising FAC(A)I. **The initial FAC(A) Evaluation (FAC(A)-3405) should be completed and logged in conjunction with the FAC(A)-3404.** FAC(A)s shall lose their qualification if they fail the recurring evaluation or if their evaluation period lapses. In order to regain qualification, FAC(A)s shall meet the T&R and the JFAC(A) MOA requirements as well as complete a subsequent re-evaluation under the supervision of a FAC(A)I.

Aircrew who have lost the FAC(A) qualification due to failure to meet JFAC(A) MOA currency requirements shall regain the FAC(A) qualification by successfully completing events as delineated in the
appropriate T&R syllabus under the supervision of a current and qualified FAC(A) or FAC(A)I. At a minimum, such aircrew must complete the number and category (appropriate night, control type, ordnance, etc.) of control tasks the individual failed to accomplish during the appropriate six-month currency period (reference the current JFAC(A) MOA). Aircrew that are less than 6 months non-current must accomplish these control tasks under the supervision of a qualified FAC(A) while aircrew that are greater than 6 months non-current must accomplish these control tasks under the supervision of a FAC(A)I.

Aircrew who have lost the FAC(A) qualification due to exceeding the refly interval in all associated qualification events, or who have been FAC(A) unqualified for 24 consecutive months per the JFAC(A) MOA, shall regain qualification by completing the refresher FAC(A) syllabus under the supervision of a FAC(A)I IAW the current JFAC(A) MOA.

The FFS/FTD SHALL be operated by a WTO or FAC(A) from the command post (not from a crew seat). Where a S-TEN+ is specified the IP may simulate the man in the loop. A co-pilot SHALL be required for CRM purposes and cockpit management.

If a FAC(A) sortie is flown with a FAC(A)I and PUI, and terminal attack control is conducted by PUI, credit for each control will go to both pilots. Also, if the crew consists of two FAC(A) proficient, qualified pilots, both shall receive control credit.

Crew Requirements. As listed at the end of each event.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night Events).

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

Goal. OS – Introduce indirect fire supporting arms control.

Requirements

Discuss

- CFF parts and elements
- Suppression of Enemy Air Defenses (SEAD)
- LASER call for fire procedures
- Ground Delivered Illumination
- Marine Indirect Fire asset organization
- Capabilities and limitations of indirect fire assets
- Naval Surface Fire Support (NSFS) capabilities, limitations and employment
- Integration of Indirect Fires with CAS Assets in support of the GCE SOM
- Appendix 19 to Annex C – Fire Support
- Fire Support Coordination Measures
- Airspace Control Measures

Introduce

- Call for fire procedures

Performance Standards

PUI shall demonstrate a basic knowledge of indirect fire support planning, preparation and execution.
PUI shall conduct a minimum of three (3) fire missions, one (1) of which shall be an adjust fire mission, one (1) shall be a SEAD mission.
PUI shall achieve desired effects (destroy, neutralize or suppress) on selected targets.

Prerequisites. 3041, 3042, 6300

Ordnance (Optional).

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. 1 indirect fire asset (with 8 rounds)

Crew. WTO(NSI)+FAC(A)/PUI/CC/AO(AG) (NSI+FAC(A)/PUI~SIM)
Goal. OS – Introduce and instruct control of RW aircraft.

Requirements
Discuss
RW CAS and FAC(A) aircraft capabilities, limitations and employment
FAC(A) Capabilities / FAC(A) Duties and Responsibilities per JFAC(A) MOA
Use and submission of the Joint Tactical Airstrike Request (JTAR)
CAS specific Rules of Engagement, Proportional Response and Collateral Damage Considerations
Marine and Joint Command and Control Structure and impact on CAS/FAC(A) planning
Types of Terminal Attack Control, methods of attack and their application to RW CAS assets
Target marking considerations for RW CAS assets
RW FAC(A) Crew coordination
Task shedding/sharing in the FAC(A) environment
FAC(A) game-plan
Section mechanics in support of FAC(A)
JFAC(A) MOA certification and qualification requirements and applicable definitions
JFAC(A) MOA CAS Mission Profile

Introduce
Integration of RW CAS assets into objective area mechanics
RW communication and control procedures.
LASER designation for laser guided weapons

Performance Standards
IP shall demonstrate a FAC(A) Gameplan that supports the event scenario
PUI shall demonstrate basic knowledge of planning, briefing and execution IAW USMC TACPSOP.
PUI shall deliver a minimum of two (2) RW 9-Line CAS attack briefs.

Prerequisites. 3041, 3042, 3043, 6398

Ordnance (Optional). (7) RP 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. 2 RW CAS aircraft with ordnance and ground maneuver unit with TACP (if conducted in aircraft)

Crew. FAC(A)/PUI/Copilot~SIM/CC/AG

Goal. OS – Introduce control of FW aircraft.

Requirements
Discuss
FW CAS aircraft ordnance capabilities, limitations and employment
Marine and Joint UAS capabilities, limitations and employment
Effects of weather, terrain and threat on FW CAS assets and RW FAC(A)
Types of Terminal Attack Control, methods of attack and their application to FW CAS assets
Airspace Control Order (ACO), Air Tasking Order (ATO) and impact on CAS/FAC(A) planning
Laser guided, sensor guided, coordinate dependant and non-precision weapons deliveries
Target location procedures in support of CAS
Target marking considerations for FW CAS assets
SEAD in support of FW CAS attacks
FAC(A) CRM

Introduce
Integration of FW CAS assets
FW LASER designation for Hellfire setup and execution
RW LASER designation for LST/LGB setup and execution
Objective area mechanics
Communication and control procedures

**Review**
Task shedding/sharing in the FAC(A) environment
FAC(A) gameplan
Section mechanics in support of FAC(A)

**Performance Standards**
PUI shall brief a FAC(A) game plan.
PUI shall demonstrate a basic knowledge of FW CAS aircraft planning, preparation and execution.
PUI shall utilize a minimum of two (2) 9-Line CAS attack briefs.

**Prerequisites.** 3041, 3042, 3043, 6398

**Ordnance.** (7) RP 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

**Range Requirement.** Live fire LASER safe range

**External Syllabus Support.** 2 FW CAS aircraft with ordnance, prefer forward firing or unguided free-fall, ground maneuver unit with TACP

**Crew.** FAC(A)/PUI/CC/AG

**SFACA-3403** 1.5 * B,R NS S/A 2 1 UH-1Y & 1 H-1

**Goal.** OS – Introduce control of FW/RW aircraft at night in an Urban Environment.

**Requirements**

**Discuss**
- Effects of weather, terrain and threat at night to FW CAS assets and RW FAC(A)
- Ground and aviation delivered illumination in support of CAS
- Urban terrain considerations
- Line of sight considerations for weapons, aircrew, and communications
- Laser spot/LGW considerations
- Weapon selection in an Urban Environment
- ROE/PID
- Collateral Damage Estimation (CDE)
- Gridded Reference Graphic (GRG)
- Urban threat considerations
- AC-130 integration and Call For Fire
- Night FAC(A) coordination within the flight and intracockpit

**Introduce.**
- FAC(A) GRG usage
- FAC(A) control at night
- FAC(A) control in the Urban Environment

**Review**
- FW CAS aircraft sensor capabilities, limitations and employment
- FW aircraft ordnance capabilities, limitations and employment
- Marine and Joint UAS capabilities, limitations and employment
- Types of Terminal Attack Control, methods of attack and their application to CAS assets
- Laser guided, sensor guided, coordinate dependant and non-precision weapons deliveries
- Target marking considerations
- FAC(A) crew coordination
- Task shedding/sharing in the FAC(A) environment
- Integration of FW and RW CAS assets
- Objective area mechanics
- Communication and control procedures
- SEAD in support of CAS attacks
NAVMC 3500.20D
24 Nov 21

Performance Standards
- PUI shall brief a FAC(A) gameplan.
- PUI shall demonstrate a basic knowledge of FW/RW CAS aircraft planning, preparation, execution and night considerations.
- PUI shall conduct a minimum of four (4) FW controls and four (4) RW controls.
- PUI shall conduct one coordinated attack that integrates FW and RW fires.
- PUI shall utilize a minimum of two (2) 9-Line CAS attack briefs.

Prerequisites, 3041, 3042, 6398

Ordnance, (7) RP 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement, Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support, 2 FW and 2 RW CAS aircraft with LASER guided, sensor guided or coordinate dependent ordnance and ground maneuver unit with TACP.

Crew, FAC(A)/PUI/CC/AG

FACA-3404 1.5 365 B,R,SC,M (NS) A/S* 2 1 UH-1Y & 1 H-1

Goal, OS – FAC(A) Evaluation – Emphasis shall be placed on the use of all available supporting arms and their integration in support of the GCE SOM.

Requirements
- Discuss
  - Fire Support planning documents (Appendix 19, target list worksheet, scheduling worksheet)
  - Target acquisition via aided or unaided vision or remote observer
  - Integration of air and surface fires in support of the Ground Scheme of Maneuver
  - Weaponeering process for RW, FW and UAS ordnance and weapon to target match
  - Integration of digital systems (VMF, Link-16, etc…)
  - MISREP and BDA assessment
- Review
  - Discussion items from previous FAC(A) flights
  - Integration of multiple fire support assets (FW, RW, UAS, IDF)
  - Objective area mechanics
  - Communication and control procedures

Performance Standards
- PUI shall brief a FAC(A) game plan that supports the GCE SOM.
- PUI shall demonstrate sound knowledge of FW and RW CAS aircraft planning, preparation, and execution.
- PUI shall integrate and conduct FAC(A) with multiple assets in support of the GCE SOM during a dynamic scenario.
- PUI shall utilize a minimum of two (2) 9-Line CAS attack briefs.

Prerequisites, 3400, 3401, 3402, 3403, 6398

Ordnance, (7) RP 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement, Live fire LASER safe range with thermally significant targets, if available.

External Syllabus Support, 2 FW CAS aircraft with ordnance, 1 indirect fire support asset or 1 section of RW aircraft with ordnance (separate from flight), ground maneuver unit with TACP

Crew, FAC(A)/PUI/CC/AG

SFACA-3405 1.5 730 B,R,M I (NS) S/A 2 1 UH-1Y & 1 H-1

Goal, OS – FAC(A) Evaluation – Emphasis shall be placed on the use of all available supporting arms and their
integration in support of the GCE SOM.

Requirements

Discuss
JFAC(A) MOA currency requirements
Any JMT listed in the FAC(A) MOA JMTL

Review
Discussion items from previous FAC(A) flights
Integration of multiple fire support assets (FW, RW, UAS, IDF)
Objective area mechanics
Communication and control procedures

Performance Standards
PUI shall brief a FAC(A) game plan that supports the GCE SOM.
PUI shall demonstrate sound knowledge of FW and RW CAS aircraft planning, preparation, and execution.
PUI shall integrate and conduct FAC(A) with multiple assets in support of the GCE SOM during a dynamic scenario.

Prerequisites.  3400, 3403, 6398

Ordnance.  (7) RP 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement.  Live fire LASER safe range with thermally significant targets, if available.

External Syllabus Support.  2 FW CAS aircraft with ordnance, 1 indirect fire support asset or 1 section of RW aircraft with ordnance (separate from flight), ground maneuver unit with TACP

Crew.  FAC(A)/PUI/CC/AG

2.11.9  Tactical Recovery of Aircraft and Personnel (TRAP)

Purpose.  To develop procedures and skills to tactically employ the aircraft while conducting TRAP missions under varying threat conditions.

General.  Upon completion of this stage the pilot will be proficient in the planning, briefing and execution aspects of TRAP missions. In addition, the pilot will be proficient in the operation and employment of all organic weapons systems.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Actual fixed wing aircraft, ground recovery forces, and indirect fire support assets should be incorporated to the maximum extent practical, but in the event that support is not available, the IP can simulate these assets during the conduct of a sortie.

Crew Requirements.  As listed at the end of each event.

Ground/Academic Training.  IAW the MAWTS-1 UH-1 Course Catalog.

TRAP-3500  1.5  365  B,R,M  (NS)  A/S  2  1 UH-1Y & 1 H-1

Goal.  OS – Conduct a TRAP in a low to medium threat environment.

Requirements

Discuss
Survivor location and authentication
ISOPREP and authentication procedures for downed survivor
CSAR SPINS
SARDOT
SARNEG
TRAP zones
GCE TRAP Force composition
Fire support coordination
ASTAC SOP TRAP matrix

Introduction
Isolated personnel authentication
CSAR SPINS application

Review
Escort/assault support mission planning
Escort responsibilities
Attached/detached/combined escort
Objective area fires integration
Objective area flow and communications

Performance Standards
PUI shall give the RFL/RV portion of the RMC brief.
PUI shall properly plan for and employ escort assets in objective area.
PUI shall utilize CSAR SPINS and ISOPREP data to properly authenticate the downed aircrew, if serving as RFL.
PUI shall properly employ escort techniques and patterns for the assigned mission, if serving as RFL.
PUI shall integrate fire support assets in the objective area, if serving as RFL.
PUI shall use the correct terminology and techniques for LZ clearance and coverage.

Prerequisites. 3051, 2102, 3100, (2604-ORD, 3101-NS), 3200

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range, if required

External Syllabus Support. One or more external assault support aircraft or one ground/amphibious unit (minimum three vehicles)

Crew. WTO(NSI)/PUI/CC/AO(AG)
2.12  CORE PLUS/MISSION PLUS ACADEMIC PHASE (4000)

**Purpose.** To develop a Core Plus Skill complete pilot. These academics facilitate understanding of higher threat operations in the UH-1Y and MAGTF/Joint level functions to ensure individuals possess the requisite knowledge to execute large scale integrated mission Events, unique mission tasking, Events having a low probability of execution in combat, are theater specific, and/or are relatively high-threat Events.

**General.** These academics are intended to be an integrated series of academic lectures, readings and practical application contained within each phase of training. The lectures, readings and chalk-talks are contained in the MAWTS-1 UH-1 Course Catalog. The academic courseware is a requirement. At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the individual pilot, contract instructor or squadron operations personnel, as appropriate. The codes listed below associated with these classes may NOT be the most up to date as the current UH-1 Course Catalog is the master document for stage academic requirements.

Core Plus/Mission Plus Academic Phase events are listed below.

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*Indicates classes that should be presented to all pilots annually.

2.13  CORE PLUS/MISSION PLUS PHASE (4000)

**Purpose.** To certify the PUI in large scale integrated mission Events having unique mission tasking, a low probability of execution in combat, are theater specific, and/or are relatively high-threat Events.

**General.** Upon completion of each individual Stage, the pilot will be considered Core Plus/Mission Plus proficient in that stage.

Completion of DACM-4301, DACM-4302 and DACM-4303 meets the requirements for the PUI to be RWDACM qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as RWDACM qualified shall be placed in the NATOPS jacket and APR.

Completion of DACM-4304 and DACM-4305 meets the requirements for the PUI to be FWDACM qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as FWDACM qualified shall be placed in the NATOPS jacket and APR.

Completion of the TAC(A) Stage meets the requirements for the PUI to be TAC(A) qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as TAC(A) qualified shall be placed in the NATOPS jacket and APR.

Completion of the CQ stage meets the requirements for the PUI to be CQ qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as CQ qualified shall be placed in the NATOPS jacket and APR.
Stages. The following stages are included in the Core Plus/Mission Plus Phase of training.

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Ordnance Delivery. At the completion of this Phase, the PUI will have demonstrated increased accuracy during ordnance delivery and proper use of the NTIS under medium to high threat conditions with mixed ordnance loads. For the Core Plus/Mission Plus Phase, the PUI shall meet the ordnance metrics outlined for the Mission Phase (See Paragraph 2.16). VTR debrief should be used to the maximum extent possible. Emphasize CRM and Tactical Risk Management (TRM) while utilizing the ordnance systems.

Navigational Accuracy. At the completion of this Phase, the PUI will have demonstrated increased navigational accuracy and timeliness during assault support operations, under medium to high threat conditions. For the Core Plus Phase, the PUI shall meet the ordnance metrics outlined for the Mission Phase. See Paragraph 2.16. IP shall use MPS or aircraft systems to assess landing point accuracy.

2.13.1 **Airborne Rapid Insertion/Extraction (RIE)**

**Purpose.** To develop the ability to perform specialized combat assault transport missions utilizing rapid insertion/extraction techniques and equipment.

**General.** Upon completion of each core plus event, the pilot will be considered capable of performing that particular mission.

Aircraft should be configured with appropriate HIE equipment, an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

**Crew Requirements.** As listed at the end of each event.

**Ground/Academic Training.** IAW the MAWTS-1 Course Catalog.

**RIE-4100**  1.0  *  B  (NS)  A  1  UH-1Y

**Goal.** OS - Introduce techniques for paradrop operations.

**Requirements**

**Discuss**
- Aircraft rigging specific to paradrops
- Insertion techniques
- Aircrew coordination
- Emergencies

**Performance Standards**
- Perform paradrop maneuvers IAW the UH-1Y NATIP/NTTP and appropriate HIE Manual.
- PUI shall conduct paradrops with at least two jumpers
Prerequisites. 2400 (2403–NS, 2405–LLL)

Range Requirement. Drop Zone or authorized paraops area.

External Syllabus Support. Jump Master and two jumpers (Jump Master may be one of the jumpers)

Crew. BIP(NSI)/PUI/CC/(AO)

RIE-4101 1.5 730 B,M,R D A 1 UH-1Y

Goal. OS - Introduce techniques for daytime water insertion.

Requirements
Discuss
- Aircraft rigging specific to water insertion
- Insertion and extraction techniques
- Aircrew coordination
- Emergencies

Performance Standards
- Perform Tactical maneuvers IAW the UH-1Y NATIP/NTTP and appropriate HIE Manual.
- PUI shall insert at least two swimmers.

Prerequisites. 2100, 2400

Range Requirement. Water drop zone or authorized helocast area

External Syllabus Support. Helocast Master and two swimmers (Helocast Master may be one of the swimmers)

Crew. BIP/PUI/CC

RIE-4102 1.5 365 B,R,M NS A 1 UH-1Y

Goal. OS - Introduce techniques for night water insertion.

Requirements
Discuss
- Aircraft rigging specific to water insertion
- Insertion and extraction techniques
- Night illusions over water
- Aircrew coordination
- Emergencies

Performance Standards
- Perform Tactical maneuvers IAW the UH-1Y NATIP/NTTP and appropriate HIE Manual.
- PUI shall insert at least two swimmers.

Prerequisites. 4101, NS–2403,LLL–2405

Range Requirement. Water drop zone or authorized helocast area

External Syllabus Support. Helocast Master and two swimmers (Helocast Master may be one of the swimmers)

Crew. NSI/PUI/CC/AO

RIE-4103 1.5 365 B,R,M (NS) A 1 UH-1Y

Goal. OS - Introduce techniques for insertion/extraction using the Special Personnel Insertion/Extraction (SPIE) rig or Jacob’s Ladder

Requirements
Discuss
- Aircraft rigging specific to SPIE
Insertion and extraction techniques
Aircrew coordination
Emergencies
Introduce
SPIE flight profiles

Performance Standards
Perform Tactical maneuvers IAW UH-1Y NATIP/NTTP and appropriate HIE Manual.
Complete three evolutions consisting of an extract, transition to flight, and insert.

Prerequisite. 2400, NS~2403, LLL~2-2405

Range Requirement. Drop zone/landing zone or authorized SPIE area

External Syllabus Support. HRST Master and two ropers

Crew. BIP(NSI)/PUI/CC(AO)

RIE-4104  1.5  365  B,R,SC,M  (NS)  A  1  UH-1Y

Goal. OS - Introduce techniques for hoist operations to include emergency hoist procedures and rapid insertion/extraction methods.

Requirements
Discuss
Windline procedure pattern
Hoist set-up and operation
Hoist capabilities and limitations
Rescue devices (double rescue hook, rescue strop, Stokes litter, SKEDCO, forest penetrator/rescue seat)
Rapid insert/extraction methods with hoist
Hoist flight profile
Aircrew coordination
Hoist operations briefing guide
Trail line utilization IAW NTTP 3-50.1
Belay line utilization during live hoist IAW NTTP 3-50.1
Engine failures
Tail rotor emergencies
Settling with power
Hoist emergencies
Demonstrate/Introduce
Proper procedures and techniques for hoist drop-off and pickup

Performance Standards
Conduct flight and hoist procedures IAW the UH-1Y NATIP/NTTP/NATOPS, NTTP 3-50.1, and local directives.
Complete three iterations of hoist procedures (drop-off and pickup).
Perform windline procedure patterns IAW UH-1Y NATIP/NATOPS.

Prerequisites. 2100, 2400, NS~2403, LLL~2405

External Syllabus Support. Appropriate external weight

Crew. BIP(NSI)/PUI/CC (AO)

2.13.2 Combat Assault Transport (CAT)

Purpose. To refine proficiency combat assault transport missions.

General. At the completion of this stage, the PUI will have demonstrated the ability to plan brief and integrate multiple assets in the execution of CAT missions under varied environmental and higher threat conditions.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HIMS, VTR,
APR-39, AAR-47, ALE-47 and IR Pointer (night events).

**Crew Requirements.** As listed at the end of each Event.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog.

| SCAT-4105 | 1.5 | * | B | D | S/A | 1 | UH-1Y |

**Goal.** OS - Introduce Mountain Area Training

**Requirements**

- Discuss
  - High altitude operations
  - Loss of tail rotor effectiveness
  - Turbulence
  - Orographic lifting
  - Downdrafts
  - DTED
  - Cloud formation and movement
  - Rapid onset of IMC conditions
  - IIMC procedures with regard to terrain
  - Mountain area enroute techniques
  - Terrain crawl
  - Wind finding techniques

- Demonstrate/Introduce
  - 45 degree ridgeline crossing
  - Inadvertent IMC egress procedures
  - Terrain crawl
  - Wind finding techniques
  - Pinnacle approach
  - Approach to a saddle
  - Approach to a ridgeline
  - Approach to a bowl

**Performance Standards**

- Perform 5 mountain area landings in mountainous terrain above 5,000ft DA or in mountainous terrain with simulated representative power limitations.
- Perform 2 simulated fastrope or rappel approaches in a mountain environment.
- Perform a minimum of one (1) 45 degree ridgeline crossing.

**Prerequisite.** 2400, 4012

**Crew.** WTO/PUI (TERFI/PUI/CC/AO~AC)

| CAT-4106 | 2.0 | 365 | B.R.M | (NS) | A | 1 | UH-1Y |

**Goal.** OS - Review Mountain Area Training.

**Requirements**

- Discuss
  - High altitude operations
  - Loss of tail rotor effectiveness
  - Turbulence
  - Orographic lifting
  - Downdrafts
  - Mountain area enroute techniques
  - DTED
  - Cloud formation and movement
  - Rapid onset of IMC conditions
  - IIMC procedures with regard to terrain

- Review
  - 45 degree ridgeline crossing
  - Inadvertent IMC egress procedures
Terrain crawl
Wind finding techniques
Pinnacle approach
Approach to a saddle
Approach to a ridgeline
Approach to a bowl

Performance Standards
Perform 5 mountain area landings in mountainous terrain above 5,000ft DA or in mountainous terrain with simulated representative power limitations.
Perform 2 simulated fastrope or rappel approaches in a mountain environment.
Perform a minimum of one (1) 45 degree ridgeline crossing.

Prerequisite. 2100, 4105, (2101~NS, 2403~NS, 2404~LLL)

Crew. WTO(NSI)/PUI/CC/(AO)

CAT-4107  1.5  *  B  (NS)  A  1  UH-1Y

Goal. OS - Introduce techniques for sniper operations.

Requirements
Discuss
Sniper operations
Planning and employment considerations
A/C rigging
Profiles
Sniper briefing considerations/guide
Communication flow
Control of fires
Clearance authority
Fires integration
Sniper template
Weapons selection

Demonstrate/Introduce
Sniper Profiles
Communication
Aircraft Rigging
Attack profiles

Review
Actions on contact
Contingency planning
Power management planning
ROE
Contingencies in urban environment
GRG usage
Accountability procedures

Performance Standards
PUI shall conduct mission planning, sniper coordination and utility brief, to include aerial sniper briefing guide.
PUI shall conduct a minimum of three simulated attacks, each with a different profile.

Prerequisites. 2400, 2600, (NSQ-HLL~NS, NSQ-LLL~LLL)

Range Requirement. Live fire range, if required

External Syllabus Support. Sniper personnel with or without ordnance

Crew. WTO(NSI)/PUI/CC/AO

SCAT-4108  1.5  730  B,R,M  (NS)  S/A  2  UH-1Y
Goal. OS – Refine combat assault transport operations in an integrated, high threat environment.

Requirements

Discuss
Mission criteria (Go, No-Go, LZ Criteria)
Prohibitive interference
EMCON
Ingress/Egress profiles for high-threat
Weapons conditions
Deception/Feint Planning
Contingency planning
Sectors of fire, door gun integration
Air to air considerations
EW Aircraft and capabilities

Demonstrate/Introduce
Air assault in a high threat environment
Route planning in a high threat environment
EW Capabilities

Review
Primary/alternate LZ selection
Insertion/extraction methods
Power management, fuel planning, route selection
Line of deconfliction
Waveoff criteria
Terrain Clutter vs Terrain Masking

Performance Standards
PUI shall plan, brief and lead an combat assault transport flight in a high threat environment with emphasis on detailed route planning and objective area integration.
Integrate all available supporting assets. Develop and execute a fire support plan that supports the initial and follow on assault wave(s).
Correctly react to 1 or more simulated en route threats to the assault flight IAW ASTACSOP.
PUI will land within +/- 50m from landing point within +/- 30 seconds of L-hour.

Prerequisites. 6498

Ordnance. Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire range with at least one emitter

External Syllabus Support. 2 or more escort assets. EW aircraft (may be simulated)

Crew. WTI/PUI/CC/AO(AG)

2.13.3 Air Delivery (AD)

Purpose. To refine procedures and skills to tactically employ the UH-1Y while conducting aerial delivery.

General. Upon the completion of the AD stage the pilot will be capable of performing that particular mission profile.

Aircraft shall be configured with an operable HMSD, NTIS, VTR and appropriate mission kit. Aircraft should be configured with an operable APR-39, AAR-47, ALE-47 and IR Pointer (night events) to the maximum extent practical.

Initial logging of the SAD-4110 must be completed in the night environment. Subsequent logging of the code for currency may be completed day or night.

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.
Goal. OS - Conduct external cargo procedures.

Requirements

Discuss
- External cargo flight profiles
- Power management planning
- Aircrew coordination
- Hand and arm signals
- ICS terminology
- Hook limitations/malfunctions
- Load release procedures
- Emergency procedures

Review
- Operational check of cargo hook
- Cargo hook pendant and manual release
- Emergency procedures for external operations

Performance Standards
- Demonstrate proper ICS terminology, hook operation and preflight.
- Perform at least two hook-up, flight and release operations for cargo hook.

Prerequisite. 2100

External Syllabus Support. Helicopter Support Team (HST) and cargo

Crew. BIP/PUI/CC/AO

Goal. OS - Tactically employ the UH-1Y for a pre-planned aerial delivery mission in a non-permissive environment.

Requirements

Discuss
- Types of aerial delivery missions
- Internal transport of cargo
- External transport of cargo planning and flight profiles
- Night cargo operations
- Night cargo illumination
- External cargo safety considerations
- Demonstrate/Introduce
- Preplanned aerial delivery mission

Review
- Power management, fuel planning and route selection
- Aircraft configuration
- Escort requirements
- Actions on contact
- Contingency planning
- Cabin configuration management
- Aircraft assault support configuration
- Considerations
- Assault support mission specific kits
- Combat restraint system
- Combat resupply planning considerations
- Internal transport of cargo
- On/off drills and rehearsals
- PZ operations
- Cargo lifting devices
- Helicopter support team (HST)
- Cargo safety considerations
- TF0A avoidance
Escort requirements
Signal plan
Manifest procedures
Aircraft MACO markings
Accountability procedures
Required communication

Performance Standards
PUI shall brief and lead the AD portion of this mission IAW the UH-1Y NATIP/NTTP.

Prerequisites

Ordnance (Optional). Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side]

Range Requirement. Optional. Live fire range.

External Syllabus Support. If flown in aircraft: HST

Crew. NSI/PUI/Co-pilot (NSI/PUI/CC/AO(AG)-AC)

Note: Initial logging of the SAD-4110 must be completed in the night environment. Subsequent logging of the code for currency may be completed day or night.

2.13.4 Airborne Command and Control (AC2)

Purpose. To develop the ability to perform Airborne Command and Control missions.

General. Upon the completion of the AC2 event the pilot will be considered capable of performing that particular mission profile.

Aircraft shall be configured with an operable command and control mission kit and NTIS. Aircraft should be configured with an operable HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events) to the maximum extent practical.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

AC2-4111 1.5 730 B,R,M (NS) A/S 1 UH-1Y

Goal. OS - Tactically employ the UH-1Y during an airborne command and control mission.

Requirements
Discuss
Crew coordination
Cabin configuration
Radio setup and allocation
Command and control mission kit employment
Communication responsibilities
MCA planning, selection and routing
MACCS integration
Execution checklist
ASSAT/ASLT
PZ operations
Assault support aircraft considerations
Air assault doctrinal relationships
Cockpit management
Radio relay function
SATCOM
Scan setup and employment
RCU operation

Demonstrate/Introduce
Radio setup and management
Cabin configuration and seating configurations
AMC and MC communication requirements
MACCS integration
RCU familiarization
Command and control kit setup and use

Performance Standards
- PUI shall demonstrate effective communications, fuel and airspace planning.
- PUI shall demonstrate effective data management and MACCS integration.

Prerequisite: 2400, (NSQ~HLL, NSQ-LLL~LLL)

Crew: WTO(NSI)/PUI/CC/AO

2.13.5 Escort (ESC)

Purpose: To refine proficiency in escort missions.

General: At the completion of this stage, the PUI will have demonstrated the ability to plan brief and integrate multiple assets in the execution of ESC missions under varied environmental and higher threat conditions.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements: As listed at the end of each Event.

Ground/Academic Training: IAW the MAWTS-1 UH-1 Course Catalog.

<table>
<thead>
<tr>
<th>ESC-4200</th>
<th>1.5</th>
<th>730</th>
<th>B,R,SC,M</th>
<th>(NS)</th>
<th>A/S</th>
<th>2</th>
<th>1 UH-1Y &amp; 1 H-1</th>
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Goal: OS - Refine armed escort responsibilities during combat assault transport operations in a medium to high threat environment.

Requirements
Discuss
- LZ clearance procedures and communication
- Threat reaction and immediate action procedures
- Capabilities/employment of HELLFIRE during escort
- APKWS switchology and employment techniques

Review
- Escort/assault support mission planning
- Escort responsibilities
- Attached/detached/combined escort
- Objective area fires integration
- Objective area flow and communications

Performance Standards
- PUI shall plan, brief and lead an armed escort flight in a medium to high threat environment.
- PUI shall correctly react to one (1) or more simulated enroute threats to the assault flight IAW ASTACSO.
- PUI shall develop and execute a fire support plan during the initial assault wave.
- PUI shall integrate fire support assets in objective area.
- PUI shall use correct terminology and techniques for LZ clearance and coverage.

Prerequisites: 6498

Ordnance: (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement: LASER safe live fire range with thermally significant targets, if available

2-96
External Syllabus Support. 2 or more assault support aircraft

Crew. WTI/PUI/CC/AG

2.13.6 Close Air Support (CAS)

Purpose. To refine proficiency in Close Air Support missions.

General. At the completion of this Stage, the PUI will have demonstrated the ability to plan, brief and execute a CAS mission and deliver accurate and timely fires, under varied environmental and higher threat conditions.

Actual fixed wing aircraft, TACP, and indirect fire assets should be incorporated to the maximum extent practical, but in the event that support is not available, the IP can simulate these assets during the conduct of a sortie.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

CAS-4201 1.5 730 B,R,SC,M (NS) A/S 2 1 UH-1Y & 1 H-1

Goal. OS – Conduct CAS in a medium to high threat environment.

Requirements

Discuss

Aircraft flight profiles
Weapon selection
MAGTF EW capabilities and limitations
RADAR Terrain Mask Analysis
Preemptive expendables use
Assault support escort considerations
SEAD/DEAD employment
GCE SOM integration
Fires Synchronization Meeting/Combined Arms Rehearsal
FAC(A) gameplan in a high threat environment

Review

J-LASER terminology
IR pointer usage
Friendly marking techniques/procedures
Identification of friendly/enemy positions
Objective area timing

Performance Standards

PUI shall plan, brief and lead a CAS mission in a medium to high threat environment.
PUI shall receive, coordinate and execute a minimum of four (4) CAS missions utilizing 5-line or 9-line attack briefs.
PUI shall execute a detailed fire support plan with ground force maneuver.
PUI shall conduct a minimum of two (2) non-permissive RW CAS missions utilizing CAS missions briefs.
PUI shall conduct all missions utilizing CAS procedures and communication.
IP shall ensure all attacks adhere to assigned attack brief parameters and restrictions.
PUI shall achieve the desired effects as stipulated by the terminal controller.
PUI shall ensure all missions are within 30 seconds of TOT during engagements or fall within the assigned engagement window.
IP shall validate IDF accuracy and procedures using VTR.

Prerequisites. 6498

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

External Syllabus Support. JTAC with appropriate marking devices (if available), suitable urban environment or
MOUT facility

Crew. WTI/PUI/CC/AG (WTI/PUI-SIM)

2.13.7 Strike Coordination and Reconnaissance (SCAR)

**Purpose.** To refine proficiency conduct in Strike Coordination and Reconnaissance missions.

**General.** At the completion of this Stage, the PUI will have demonstrated the ability to plan, brief and integrate multiple assets and fires in the execution of AR missions under varied environmental and higher threat conditions.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

**Crew Requirements.** As listed at the end of each Event.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog.

**SSCAR-4202** 1.5 730 B.R,SC,M (NS) S/A 2 1 UH-1Y & 1 H-1

**Goal.** OS - Conduct a Strike Coordination and Reconnaissance (SCAR) mission in a medium to high threat environment.

**Requirements**

**Discuss**
- Organic MAGTF EW capabilities and limitations
- Suppression of Enemy Air Defense (SEAD)
- Destruction of Enemy Air Defense (DEAD)
- Collateral Damage Estimation (CDE)
- Positive Identification (PID)
- Theater Air Control System (TACS)
- Target Location Error (TLE)
- Target list, High payoff Target Priority List

**Review**
- Targeting process
- Joint Surveillance and Target Attack RADAR System (JSTARS)
- ROE/PID considerations
- JMEMs/JWS
- Weapon to target match
- IFREP/MISREP procedures

**Performance Standards**
- PUI shall plan, brief and lead a SCAR mission in a medium to high threat environment.
- PUI shall properly employ all ASE IAW UH-1 NTRP.
- PUI shall achieve the desired effects (as stipulated by the mission objectives) on at least two (2) known targets with timely, accurate engagements, with minimal exposure time as the SCAR, while using proper weapons to target match.
- IP shall validate, using the VTR, an effective engagement of a point target.
- PUI shall consolidate BDA and pass through appropriate MACCS channels.

**Prerequisites.** 6498

**Ordnance.** (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

**Range Requirement.** Live fire LASER safe range

**External Syllabus Support.** 2 OAS aircraft
Crew. WTI/PUI (WTI/PUI/CC/AG–AC)

2.13.8 Rotary Wing Defensive Air Combat Maneuvering (RWDACM)

Purpose. To demonstrate and introduce RWDACM and to qualify the PUI as RWDACM complete.

General. At the completion of this Stage, the pilot will be proficient in the conduct of the principles of RWDACM and have a thorough knowledge of weapons employment, aircraft control, and threat tactics of RW adversaries.

Aircraft should be configured with an operable NTIS, operable HMSD, VTR, APR-39, and ALE-47.

Crew Requirements. As listed at the end of each Event. All participants must be TERF qualified.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

DACM-4301 1.0 * B,SC D A 1 UH-1Y

Goal. OS - Introduce 1 v 1 RWDACM.

Requirements

Discuss

Energy maneuverability (EM)
Specific excess power (P_s)
EM & P_s tactical considerations
High and low yo-yo
Yo-yo counter tactics
Weapons employment rules of thumb
Range estimation techniques
Line number setups
DACM training rules
Control zone maneuvering
Crew coordination considerations
Aircraft control
DACM flight leadership

Introduce

Aircraft capabilities/limitations
Adversary aircraft capabilities/limitations
Weapons envelopes of adversary RW aircraft

Performance Standards

PUI shall conduct one complete line number sequence (from both friendly and adversary roles).
PUI shall maintain aircraft control within NATOPS limitations.
PUI shall execute proper reactions to RW threat attacks.

Prerequisites. 2101, 2201, 2300, 2600, 4030, 4031, 4032

Ordnance. (30) flares, TCTS pod (as required)

External Syllabus Support. One adversary helicopter and appropriate air-to-air training area.

Crew. RW DACMI/PUI/CC/OA

DACM-4302 1.0 485 B,R,M D A 2 1 UH-1Y & 1 H-1

Goal. OS - Introduce 2 v 1 helicopter DACM maneuvering.

Requirements

Discuss

Weapons employment rules of thumb
Range estimation techniques
Line number setups and communication
DACM training rules
Crew coordination considerations
Aircraft control characteristics
DACM Flight leadership considerations
Section tactics and gameplan
Roles and responsibilities of free and engaged aircraft
Control zone maneuvering and the weave

Review
Adversary aircraft capabilities/limitations
Weapons envelopes of adversary RW aircraft
Energy maneuverability (EM)
Specific excess power ($P_s$)
EM & $P_s$ tactical considerations

Performance Standards
PUI shall conduct one (1) complete line number sequence (from both tactical lead and tactical wingman positions).
PUI shall maintain aircraft control within NATOPS limitations.
PUI shall execute proper reactions to RW threat attacks.

Prerequisite. 4301

Ordnance. (30) flares, TCTS pod (as required)

External Syllabus Support. Two adversary helicopter and appropriate air-to-air training area

Crew. RW DACM/PUI/CC/AO

DACM-4303 2.0 * B D A 2 1 UH-1Y & 1 H-1

Goal. OS - Tactical RWDACM.

Requirements
Discuss
Crew coordination considerations
Aircraft control characteristics
DACM flight leadership considerations
Section tactics and gameplan
Roles and responsibilities of free and engaged aircraft
Control zone maneuvering and the weave

Review
Energy maneuverability (EM)
Specific excess power ($P_s$)
EM & $P_s$ tactical considerations
High and low yo-yo
Yo-yo counter tactics
Weapons employment rules of thumb
Range estimation techniques
Line number setups
DACM training rules
Control zone maneuvering
Crew coordination considerations
Aircraft control
DACM flight leadership

Performance Standards
PUI shall maintain aircraft control within NATOPS limitations.
PUI shall execute proper reactions to RW threat attacks.

Prerequisite. 3013, 4030, 4031, 4032, 4033, 4034, 4302

Ordnance. (60) flares and TCTS pod (as required)

External Syllabus Support. Adversary helicopter(s) and appropriate air-to-air training area

Crew. RW DACM/PUI/CC/AO
2.13.9 **Fixed-Wing Defensive Air Combat Tactics (FWDACM)**

**Purpose.** To demonstrate and introduce FWDACM and to qualify the PUI as FWDACM complete.

**General.** At the completion of this stage, the PUI will be proficient in the conduct of FWDACM and have a thorough knowledge of weapons employment, aircraft control and threat tactics of FW adversaries.

Aircraft should be configured with an operable NTIS, operable HMSD, VTR, APR-39, and ALE-47.

**Crew Requirements.** As listed at the end of each Event. All participants must be TERF qualified.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog.

**DACM-4304** 1.0 * B,R,M D A 1 UH-1Y

**Goal.** OS - Perform 1 v 1 FWDACM maneuvering.

**Requirements**

*Discuss*
- FW capabilities/limitations
- Weapon envelopes and tactics of adversary FW aircraft
- Tactical advantages derived from P/EM charts
- FW threat counter-tactics
- FW air-to-air weapons considerations
- Range estimation
- Lead requirements
- RADAR/fire control capabilities
- Intercept terminology
- Visual Combat Air Patrol (VISCAP) considerations
- DACM training rules
- FW DACM line number set-up and execution

*Introduce*
- FW capabilities/limitations
- Weapons envelopes of adversary FW aircraft
- 1 v 1 maneuvers against a FW aircraft

**Performance Standards**
- PUI shall conduct a minimum of one (1) line number sequence.
- PUI shall execute proper reactions to FW threat attacks.

**Prerequisites.** 2101, 2201, 2300, 2600, 4030, 4031, 4332

**Ordnance.** (30) flares, TCTS pod (as required)

**External Syllabus Support.** One FW adversary and appropriate air-to-air training area

**Crew.** FW DACMI/PUI/CC/AO

**DACM-4305** 1.0 485 B,R,M D A 2 1 UH-1Y & 1 H-1

**Goal.** OS - Perform 2 v 2 DACM against FW adversaries.

**Requirements**

*Discuss*
- FW capabilities/limitations
- FW threat counter-tactics
- P/EM of threat/friendly aircraft
- FW DACM training rules
- 2 v 2 FW DACM line number set-up

*Demonstrate/Introduce*
- RW section gameplan
RW v FW weapons employment
Aircraft/section control
Section awareness and communication
DACM flight leadership

Performance Standards
PUI shall conduct a minimum of one (1) line number sequence as lead and wingman.
PUI shall execute proper reactions to FW threat attacks.

Prerequisite. 4030 through 4032, 4035, 4036, 4304

Ordnance. (30) flares, TCTS pod (as required)

External Syllabus Support. Two FW adversary and appropriate air-to-air training area

Crew. FW DACMI/PUI/CC/AO

2.13.10 Chemical, Biological, Radiological and Nuclear Warfare (CBRN)

Purpose. To introduce the pilot to operations while wearing the aviator's CBR protective mask.

General. This Event is designed to expand the capabilities of the aircrew in CBR operations.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. Review appropriate section of UH-1Y NTRP for information on the aviator’s CBR protective mask prior to flight. The pilot will complete protective mask familiarization lecture and aircraft egress with mask.

SCRBN-4400 1.0 1095 B.R.M D/NS S/A 1 UH-1Y

Goal. OS – CBR protective mask introduction.

Requirements
Discuss
Advantages & disadvantages of CBR protective mask
CBR Protective Mask components and operation
Psychological effects
Operating in a CBRN environment
Emergency procedures while using the CBR
Emergency egress
MOPP conditions
NVD considerations
Battery failure
Demonstrate/Introduce
Wear of the CBR protective mask while conducting FAM maneuvers

Performance Standards
PUI shall perform all maneuvers IAW UH-1Y MDG and NATOPS.
PUI shall complete 5 auto-rotations IAW the UH-1Y MDG and NATOPS.

Prerequisites. 2800 (2100–AC 2101–NS AC, 2404–LLL AC)

Crew. NSI/PUI (NSI/PUI/CC/AO–AC)

2.13.11 Tactical Air Coordinator Airborne Operations [TAC(A)]

Purpose. To introduce and refine TAC(A) procedures.

General. At the completion of this Stage, the PUI will demonstrate proficiency in the coordination of attack aircraft and multiple terminal controllers. At the completion of this stage, the PUI may be TAC(A) qualified, in writing, by the commanding officer.
Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

**Crew Requirements.** As listed at the end of each Event.

**Ground/Academic Training.** Per the MAWTS-1 Course Catalog.

| TACA-4500 | 2.0 | 730 | B,R,M | (NS) | A | 1 | UH-1Y |

**Goal.** OS - Conduct TAC(A) procedures with multiple terminal controllers.

**Requirements**

Discuss
- TAC(A) procedures
- Delegated Authority from Mission Commander (MC)
- Asset/Weapon-to-target match
- EEI, PIR, CCIR, FFIR
- Airspace management
- MCA vs TAC(A) airspace
- SPEED (Systems Planning Engineering Evaluation Device) analysis
- CRM

Demonstrate/Introduce
- TAC(A) procedures
- TACP/CAS asset coordination
- DASC/MACCS coordination

**Performance Standards**

- Perform coordination of attack aircraft and multiple terminal controllers.
- Receive attack briefings from the FAC/FAC(A) and assign appropriate CAS aircraft.
- Be able to accurately copy immediate JTAR, coordinate timely CAS in response to immediate request, and to pass CAS aircraft BDA via the C³ system.
- Coordinate target mark and control with the FAC/FAC(A).
- Manage assigned airspace and provide command and control system with essential elements of information (EEIs).
- IAW UH-1 NTTP.

**Prerequisite.** 4050, 4051, 6498, FAC(A) qualified

**Range Requirement.** Range with tactical targets.

**External Syllabus Support.** MACCS (may be simulated), at least two CAS elements and 2 terminal controllers.

**Crew.** TAC(A)(NSI)/PUI/CC(AO)

2.13.12 **Sea-Based Expeditionary Operations (SEA)**

**Purpose.** To introduce day and night flight operations from a carrier deck or air capable ship.

**General.** IAW applicable directives, PUI will emphasize proper communication procedures, patterns, and aviation operations in the shipboard environment. Refer to appropriate NATOPS and appropriate shipboard NATOPS Manuals for carrier operations. PUI shall complete the FCLP stage prior to commencing this stage.

Initial Night Systems Carrier Qualification training shall be accomplished under High Light Level conditions. Requalification and proficiency training may be accomplished under any light level condition. PUI shall conduct at least one (1) precision and one (1) non-precision approach to an air capable ship before stage completion.

Once complete in each stage the pilot may be Day CQ, or Night CQ or NVD CQ (as appropriate) in writing at the discretion of the commanding officer.
Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

SSEA-4600 1.5 * B D/NS/N* S/A 1 UH-1Y

Goal. OS – Introduce day, night, and NVD shipboard operations.

Requirements
Discuss
Flight deck operations (e.g. lighting, air plan, starting procedures)
Wind envelopes and engage/disengage envelopes
Shipboard EPs
Alpha, Charlie, and Delta patterns
Shipboard instrument procedures (e.g. TACAN, Carrier Controlled Approaches (CCA), marshals)
Lost communication procedures
Shipboard lighting and NVG procedures
Shipboard communication procedures
Shipboard helicopter director visual signals

Demonstrate
Day, Night and NVD shipboard patterns and approaches
Helicopter director visual signals
Shipboard communications
Landings to an L-class amphibious ship

Performance Standards
IAW the UH-1Y NATOPS and shipboard NATOPS manuals, conduct a minimum of 3 day, 3 NVD and 3 unaided night landings to an L-class amphibious ship.
PUI shall conduct 1 CCA and 1 TACAN instrument approach in simulated instrument conditions.

Prerequisites. 2800, 4060, 4061

Crew. NSI/PUI

SEA-4601 1.0 365 B,R D A 1 UH-1Y

Goal. OS – Introduce day FCLP operations.

Requirements
Discuss
Types of air capable ships
Shipboard specific crew coordination
Deck crewman vest colors
Helicopter director visual signals
Emergency and ditching procedures
Wind limitation and engage/disengage charts
Shipboard terminology
Different case departures and arrivals
HERO conditions and ordnance operations
Shipboard airspace
Blade fold system and operations
Rotor brake start procedures

Demonstrate/Introduce
Day shipboard patterns
Sight picture and landings to an FCLP deck
Blade fold or spread operations
Execute a rotor brake start

Review
Shipboard patterns
Shipboard EPs

Performance Standards
PUI shall conduct a minimum of 5 day FCLP landings per the UH-1Y NATOPS and shipboard NATOPS
PUI shall observe and participate in blade fold operations.

Prerequisites. 4600

External Syllabus Support. FCLP pad

Crew. BIP/PUI/CC

Goal. OS – Introduce night and NVD FCLP operations.

Requirements

Discussion
Instrument scan considerations
Night shipboard specific crew coordination
Shipboard lighting considerations
NVD failures and emergency procedures
Spatial disorientation and vertigo
Shipboard instrument procedures

Demonstrate/Introduce
Night unaided/NVD patterns
Sight picture and HMSD usage
Landings to an FCLP deck

Review
Shipboard communication procedures
Shipboard helicopter director visual signals

Performance Standards
PUI shall conduct a minimum of 5 unaided and 5 NVD landings IAW the UH-1Y NATOPS and shipboard NATOPS manuals.

Prerequisite. 4601

External Syllabus Support. FCLP pad with overt and NVD deck lighting

Crew. NSI/PUI/CC/AO

Goal. OS - Conduct day shipboard landing qualification.

Requirements

Discussion
Day shipboard patterns
Sight picture and landings to a ship’s deck

Demonstrate/Introduce
Day shipboard operations
Lost communication procedure in a shipboard environment

Review
Types of air capable ships
Shipboard specific crew coordination
Deck crewman vest colors
Helicopter director visual signals
Emergency and ditching procedures
Wind limitation and engage/disengage charts
Shipboard terminology
Different case departures and arrivals
Rotor brake start procedures
HERO conditions and ordnance operations
Shipboard airspace
Performance Standards

PUI should execute a rotor brake start, if able.
PUI shall conduct a minimum of five (5) day shipboard landings per the UH-1Y NATOPS and shipboard NATOPS manuals.
PUI should conduct one (1) precision and one (1) non-precision approach, if available.
PUI should conduct shipboard refueling, if available.

Prerequisites. 4601

External Syllabus Support. Landing platform afloat

Crew. BIP/PUI/CC

| SEA-4604 | 1.0 | 365 | B,R,SC,M | NS  | A  | 1 | UH-1Y |

Goal. OS – Conduct NVD shipboard landing qualification.

Requirements

Discuss
Night NVD pattern
Sight picture and night landings to a ship’s deck

Demonstrate/Introduce
NVD shipboard operations

Review
Instrument scan considerations
Night shipboard specific crew coordination
Shipboard lighting considerations
NVD failures and emergency procedures
Spatial disorientation and vertigo
Shipboard instrument procedures
Shipboard communication procedures
Shipboard helicopter director visual signals

Performance Standards

PUI shall conduct a minimum of five (5) NVD shipboard landings per the UH-1Y NATOPS and shipboard NATOPS manuals.
PUI should conduct one lost comm. marshalling procedure, if available
PUI should conduct one (1) precision and one (1) non-precision approach, if available.
PUI should conduct shipboard refueling, if available.

Prerequisites. 4602, 2403, 4603

External Syllabus Support. Landing platform afloat

Crew. NSI/PUI/CC/ AO

| SEA-4605 | 1.0 | 365 | B,R,SC | N*  | A  | 1 | UH-1Y |

Goal. OS – Conduct night unaided shipboard landing qualification.

Requirements

Discuss
Shipboard lighting
Wind limitations

Demonstrate/Introduce
Night unaided shipboard operations

Review
Shipboard lighting considerations
Shipboard instrument procedures
Delta, Alpha, and Charlie patterns
Shipboard helicopter director visual signals

Performance Standards
PUI shall conduct a minimum of five (5) unaided shipboard landings per the UH-1Y NATOPS and shipboard NATOPS manuals.
PUI should conduct one (1) precision and one (1) non-precision approach, if available.

Prerequisites. 4602, 4603

External Syllabus Support. Landing platform afloat.

Crew. NSI/PUI/CC/AO

2.13.13 Electronic Warfare (EW)

Purpose. To introduce electronic warfare operations with emphasis on utilization of the Intrepid Tiger 2 (IT2) pod.

General. IAW applicable directives, PUI will demonstrate familiarity with pilot responsibilities and actions during the conduct of EW missions.

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

EW-4700 0.0 730 B,R,M (NS) GE 1 UH-1Y

Goal. OS – Introduce planning and execution of electronic warfare with the Intrepid Tiger pod.

Requirements
Discuss
Security classification of system components
Mission planning procedures
Radio Batallion coordination
Preflight procedures
System operation
Safety considerations
Safety interlocks
CRM
Modes and mission types
Flight profiles
Zeroize procedures

Performance Standards
Demonstrate proper planning of EW missions
Demonstrate how to execute EW missions

Prerequisites. 6398

External Syllabus Support. Intrepid Tiger pod, ground stations, and RadBn support personnel

Crew. WTO/PUI
2.14 INSTRUCTOR UNDER TRAINING ACADEMIC PHASE (5000)

**Purpose.** To develop standardized Instructor Pilots (IPs). These academics review and emphasize procedural-based knowledge, standardized instruction, systems knowledge/nomenclature, and training management to ensure individuals possess the requisite knowledge and ability to teach flight skills.

**General.** These academics are intended to be an integrated series of academic lectures, readings and practical application contained within each stage of training. The lectures, readings and chalk-talks are contained in the MAWTS-1 UH-1 Course Catalog. The academic courseware is a requirement. The codes listed below associated with these classes may NOT be the most up to date as the current UH-1 Course Catalog is the master document for stage academic requirements.

Instructor Under Training academic events are listed below.

<table>
<thead>
<tr>
<th>INSTRUCTOR UNDER TRAINING ACADEMIC PHASE</th>
<th>COURSEWARE</th>
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<tr>
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<td>ACAD-5007</td>
<td>How to Give a Quality X</td>
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<td>ACAD-5008</td>
<td>How to Build a Scenario</td>
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<td><strong>FAC(A)I</strong></td>
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<td><strong>DACM-I</strong></td>
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<td>ACAD-5080</td>
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<td>ACAD-5081</td>
<td>DACM FW Presentation</td>
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<td><strong>NSI</strong></td>
<td></td>
</tr>
<tr>
<td>ACAD-5090</td>
<td>NSI Presentation</td>
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</tbody>
</table>

* Indicates classes that should be presented to all pilots annually.

2.15 INSTRUCTOR TRAINING PHASE (5000)

**Purpose.** To develop standardized Instructor Pilots (IPs) with the ability to teach flight skills requisite to qualification as a Core Plus/Mission Skills qualified pilot.

**General.** Upon completion of this phase of training the IUT may be designated a BIP, TERFI, WTO, CSI, FRSI, FAC(A)I, TAC(A)I, DACM(I), NSFI, NSI and FLSE.

Completion of the BIP Stage and DESG-6498 meets the requirements for the PUI to be designated a BIP. At the discretion of the squadron commanding officer a letter designating the IUT as a BIP shall be placed in the NATOPS jacket and APR. Section leader designation is required prior to BIP designation.

Completion of the TERFI Stage meets the requirements for the PUI to be designated a TERFI. At the discretion of the squadron commanding officer a letter designating the IUT as a TERFI shall be placed in the NATOPS jacket and APR.
Completion of the WTO Stage and refly of the SWD-2605, meeting instructor under training accuracy metric, completes the requirements for the IUT to be designated a WTO. At the discretion of the squadron commanding officer a letter designating the IUT as a WTO shall be placed in the NATOPS jacket and APR.

Completion of the CSI stage meets the requirements for the IUT to be designated a CSI. At the discretion of the group commanding officer, a letter designating the IUT as a CSI shall be distributed to squadrons DoSS and operations departments. A copy shall be maintained by the MATSS representative to track CSI currency and refly requirements.

Completion of the FRSI stage meets the requirements for the IUT to be designated a FRSI. At the discretion of the FRS commanding officer a letter designating the IUT as a FRSI shall be placed in the NATOPS jacket and APR.

Refer to the MAWTS-1 UH-1 Course Catalog for FAC(A)I, TAC(A)I, DACMI, NSFI, NSI and FLSE requirements.

Prior to the completion of each Stage of training, the IUT will be required to present a class from an applicable MAWTS-1 ASP lecture or HMLAT-303 courseware. Emphasis will be placed on error analysis, error correction, instructional techniques, and briefing and debriefing procedures.

### Stages

The following Stages are included in the Instructor Phase of training.

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<th>PAR NO.</th>
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<td>2.15.9</td>
<td>Defensive Air Combat Maneuvering Instructor (DACMI)</td>
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<td>2.15.10</td>
<td>Night Systems Instructor (NSI)</td>
</tr>
<tr>
<td>2.15.11</td>
<td>Flight Lead Standardization Evaluator (FLSE)</td>
</tr>
</tbody>
</table>

### Ordnance Delivery

For ordnance accuracy metrics, refer to paragraph 2.16.

### Navigational Accuracy

At the completion of this phase, the PUI will have demonstrated increased navigational accuracy and timeliness during combat assault transport operations, under all threat conditions. For the Instructor Training Phase, the PUI shall meet the ordnance metrics outlined for the Mission Phase. See Paragraph 2.16. IP shall use MPS or aircraft systems to assess landing point accuracy.

#### 2.15.1 Basic Instructor Pilot (BIP)

**Purpose.** To qualify the IUT to instruct basic FAM, INST, FORM, CAT, FCLP, and CQ.

**General.** To instruct CQ, IUT must meet currency requirements outlined in CNAF M-3710.7.

Aircraft should be equipped with an operable HMSC.

**Crew Requirements.** As listed at the end of each Event. With an appropriately qualified crew and at the discretion of the squadron commanding officer, the Instructor Pilot may evaluate the Instructor Under Training from the jump-seat, during BIP events. Co-pilots are required for all simulator events.

**Ground/Academic Training.** IAW MAWTS-1 UH-1 Course Catalog.

**SBIP-5100 1.5 * B,R,SC D S 1 UH-1Y**

**Goal.** OS - Simulator control – Introduce simulator iOS control functions and capabilities and instruct FAM/EPs.
Requirements

Discuss
Learning objectives
Performance standards
M-SHARP simulator logging
Basic simulator functions (motion, communication, etc.)
HMSD integration & boresighting procedures
Simulator MAF submission
Instructor Techniques
Common PUI mistakes
FAM Stage maneuvers IAW UH-1Y MDG and NATOPS
Cockpit indications of all emergencies

Demonstrate/Introduce
Environment/weather conditions
Weapons/ASE configuration
Systems/Weapons malfunctions
Threat indication incorporation and capabilities
Friendly system incorporation and capabilities
Instrument/approach functions
Shipboard configuration and functions

Performance Standards
IUT shall demonstrate the ability to operate the simulator iOS.
IUT shall demonstrate the ability to manipulate environmental conditions.
IUT shall demonstrate the ability to manipulate and operate simulator weapons and ASE.
IUT shall demonstrate the ability to manipulate and operate simulator emergencies and malfunctions.
IUT shall demonstrate the ability to manipulate and operate simulator ship moving models.
IUT shall demonstrate the ability to manipulate and operate external load moving models.
IUT shall demonstrate the ability to instruct FAM maneuvers.
IUT shall demonstrate the ability to instruct EPs.
Utilizing a copilot, IUT shall demonstrate the ability to analyze and instruct proper responses & CRM during aircraft emergency procedures.
IUT shall complete three (3) autorotations IAW the UH-1Y NATOPS and MDG.

Prerequisites. 6398, 5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008

External Syllabus Support. Device operator

Crew. WTO/IUT

SBIP-5101 1.5 * B D S 1 UH-1Y

Goal. OS - Instruct all instrument maneuvers and CQ procedures with emphasis on standardization IAW the UH-1Y NATOPS, MDG and LHA/LHD NATOPS.

Requirements
Discuss
Instructor techniques
CRM skills and behaviors
ORM management as an instructor
Human factor errors
Instructional techniques
Common PUI mistakes
FCLP and CQ procedures
Applicable instrument publications
Instrument flight checklist
Instrument flight procedures
Instructional techniques
Common PUI mistakes and CRM during instrument flight
Vertigo
Review
IFR flight planning and enroute procedures
Shipboard operations

Performance Standards
IUT shall conduct a minimum of two (2) day CQ landings per the UH-1Y NATOPS and shipboard NATOPS manuals.
Utilizing a co-pilot, IUT shall demonstrate the ability to analyze and instruct proper CRM and instrument and CQ maneuvers emphasizing error analysis.
IP will act as PUI. IP will provide the IUT with an actual or notional instrument flight plan developed with intentional errors. IUT will correctly identify all errors in a flight plan provided by the IP.
IUT will satisfactorily demonstrate the ability to execute, analyze and correct all standard instrument maneuvers under actual or simulated IFR conditions.
IUT shall ensure that the PUI maintains established BAW parameters.
IUT shall conduct a minimum of two (2) Reduced Visibility Landings.

Prerequisites
5100

External Syllabus Support
Device operator

Crew
WTO+IFBM/IUT (WTO+IFBM/IUT(CC/AO))

SBIP-5102 1.5 * B D S/A 1 UH-1Y

Goal
OS - IUT will demonstrate the ability to instruct confined area landings, reduced visibility landings, and RIE profiles.

Requirements
Discuss
Instructor briefing and debriefing techniques
Error detection and correction techniques
Aviation Training Jacket (ATJ) requirements and organization
NATOPS Jacket requirements and organization
Tactical Landing procedures
RVL profiles
Common profile errors
Fastrope
Rappelling
Hoist operations

Review
Straight-in profile
RVL profile
Time and distance landing standards
IP-to-LZ considerations

Performance Standards
The IP shall act as the PUI.
IUT shall be able to identify and correct abnormal parameters performed by the IP/PUI.
IUT shall demonstrate loss of visual contact and the subsequent rendezvous and join-up
IUT shall satisfactorily demonstrate the ability to recognize, analyze and correct all errors through demonstration or verbal commands.
IUT shall produce applicable LZ diagrams IAW UH-1 NTTP and brief LZs and ingress profiles.
A minimum of one LZ shall be selected with associated IP and timing to LZ.
A minimum of 4 ingress profiles shall be accomplished as lead and 4 ingress profiles shall be accomplished as the wingman. IUT shall land within +/- 30 seconds of L-HR and +/- 50 meters from the zone.
IUT shall conduct a minimum of two (2) Reduced Visibility Landings.
IUT shall demonstrate a fastrope or rappel profile.

Prerequisite
5101

External Syllabus Support
Device operator
Goal. OS - IUT will demonstrate the ability to instruct formation flight during enroute portions of flight. IUT will demonstrate the ability to instruct section tactical landings/CAT and accurately identify and correct PUI BAW errors, tendencies and procedural errors during FAM maneuvers.

Requirements

Discuss
- Instructor briefing and debriefing techniques
- Parade and tactical formations
- Formation take-off and landings
- TacForm maneuvers
- Error detection and correction techniques
- Fastrope
- Rappelling

Review
- Visual signals
- Lead change
- Inadvertent IMC
- Loss of visual contact
- Section takeoff
- Straight-in profiles
- RVL profile
- Time and distance landing standards
- IP-to-LZ considerations
- Waveoffs

Performance Standards
- The IUT shall brief and lead the flight.
- The IP shall act as the PUI.
- The IUT shall demonstrate formation stage maneuvers with emphasis on instructional technique, accurate maneuver description, formation signals and parade/tactical formation maneuvering.
- IUT shall be able to identify and correct abnormal parameters performed by the IP/PUI.
- IUT shall demonstrate loss of visual contact and the subsequent rendezvous and join-up
- IUT shall satisfactorily demonstrate the ability to recognize, analyze and correct all errors through demonstration or verbal commands.
- IUT shall produce applicable LZ diagrams IAW UH-1 NTTP and brief LZs and ingress profiles.
- A minimum of one LZ shall be selected with associated IP and timing to LZ.
- A minimum of 4 ingress profiles shall be accomplished as lead and 4 ingress profiles shall be accomplished as the wingman. IUT shall land within +/- 30 seconds of L-HR and +/- 50 meters from the zone.
- IUT shall conduct a minimum of two (2) Reduced Visibility Landings.
- IUT shall demonstrate a fastrope or rappel profile.

Prerequisite. 5102

Crew. WTO/IUT/CC/AO

2.15.2 Terrain Flight Instructor (TERFI)

Purpose. To qualify the IUT as a TERFI instructor.

General. IUT shall be BIP Stage complete prior to beginning TERFI training. IUT will demonstrate the ability to utilize mission planning software and appropriate Tactical navigation systems.

Aircraft should be equipped with an operable NTIS and operable HMSD.

Crew Requirements. As listed at the end of each Event. With an appropriately qualified crew and at the discretion of the squadron commanding officer, the Instructor Pilot may evaluate the Instructor Under Training from the jump-seat, during TERFI events. A Co-pilot is required for the simulator event.
Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

**TERFI-5110**  2.0  *  B.R,SC  D  A  1  UH-1Y

Goal. OS - Instruct TERF navigation, maneuvers, profiles and procedures.

Requirements

Discuss
- Crew coordination
- Comfort level
- Common PUI mistakes
- Map preparation
- Low altitude emergencies
- Single engine operation
- TERF navigation techniques and procedures
- CRM in TERF environment
- Comfort level
- Terrain flight illusions and hazards

Review
- All TERF maneuvers
- Tactical decisions to fly TERF
- Threat considerations that influence TERF profiles
- Boundary features including lateral limits and intermediate checkpoints
- EGI navigation functions

Performance Standards

IUT shall plan, brief and lead the flight.
IUT shall navigate in low level, contour and NOE profiles, a route consisting of five (5) checkpoints, utilizing a 1:50,000 scale map remaining oriented within 200 meters, 15 degrees of heading, and arriving at the final checkpoint within +/- 30 seconds of the planned time.
IUT shall not use the GPS, moving map or overlays for a minimum of 2 legs of the route.
IUT shall fly from the seat opposite of that flown during STERF-5110.
Emphasis will be on tactical use of terrain to navigate to a specific objective area, masking and unmasking profiles.
IUT shall conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.

Prerequisites. 5103

External Syllabus support. Authorized TERF area

Crew. WTO/IUT/Co-pilot (WTO/IUT/CC/AO)

2.15.3 Weapons Training Officer (WTO)

Purpose. To qualify the IUT as a WTO.

General. IUT shall be TERFI stage complete prior to beginning WTO training. The WTO is qualified to instruct all phases of flight except those requiring FAC(A)I, TAC(A)I, NSFI, NSI, DACMI, or WTI qualifications. As such, the WTO shall demonstrate a sound knowledge of all aircraft weapons systems, threat systems and current tactics, techniques and procedures.

At the completion of this stage, the PUI will have demonstrated increased accuracy and the ability to instruct during ordnance delivery and proper use of the NTIS under all threat conditions with mixed ordnance loads. SWD should be conducted on raked/scored ranges whenever possible. VTR debrief should be used to the maximum extent possible. Emphasize CRM and Tactical Risk Management (TRM) while utilizing the ordnance systems.

IPs shall evaluate ordnance effectiveness based on the following accuracy metrics. Initial ordnance shall be delivered within +/- 30 seconds of established TOT.

<table>
<thead>
<tr>
<th>INSTRUCTOR UNDER TRAINING</th>
<th>UNGUIDED ROCKET STANDARD</th>
<th>GUN STANDARD</th>
<th>PURPOSE</th>
</tr>
</thead>
</table>

2-113
**Radius**

*Radius

- In correct profile per NTTP
- No miss greater than 100 meters
- CE90 ≤ 30 meters**
- (1) rocket per pass must impact within 10 meters

- On target within 3 seconds of trigger pull
- Crew served: crew coordination sufficient to achieve AG metric
- Based upon M151 Effective Casualty Radius (ECR)***
- Demonstrates the capacity to instruct Specific Weapons Delivery

** CE90 example: SWD-2603 requires (7) 2.75” rockets. CE90 ≤ 30 meters requires that 90% of the delivered rockets impact within 30 meters of the target. In order to calculate, simply disregard the worst 10% of rockets released and the remaining farthest SINGLE MISS DISTANCE = CE90. Conservative rounding is applied. Examples:
  - 3-10 rockets released ~ disregard one rocket, SECOND FARTHEST MISS = CE90
  - 11-20 rockets released ~ disregard two rockets, THIRD FARTHEST MISS = CE90
  - In no case can a single rocket miss the intended target by more than 100m, including the omitted rounds for CE90 calculation.

*** Effective Casualty Radii (ECRs) are generic distances intended to be applied versus the anticipated target set for a particular weapon, based primarily upon explosive yield and warhead/fuse characteristics. Variables to weapon effectiveness include target vulnerability and composition of underlying terrain. Weapons that impact the target vicinity at distances beyond the warhead’s ECR are predicted to be ineffective for target damage.

APKWS - Correct switchology, proper LASER placement, profile IAW UH-1 NTTP direct hit.

TOTs - Initial ordnance shall be delivered within +/- 30 seconds of established TOT.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

During this stage, the intent is for the IUT to act as the IP. The IUT is expected to coordinate the event with operations, develop a tactical scenario where appropriate, and act as the instructor. The IP (or designated copilot) shall plan, brief and execute the event with the exception of the SWTO-5200.

The S-TEN scenario and models for the SWTO-5200 event should leverage a locally-developed (squadron or MATSS to the maximum extent practical) and maintained common simulator file that provides the necessary framework for meeting event learning objectives. The focus of the 1.5 hour simulator sortie should be on instructing the prescribed mission profiles, not on the building of event framework in the simulator.

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

**SWTO-5200 1.5 * B,R,SC D S 1 UH-1Y**

Goal. OS - Tactical simulator control – Review iOS control functions and capabilities. Introduce scenario development linked evolution operations, and TEn/CPOS/NECC functions.

Requirements

Discuss

- Advanced simulation scenario development (METT-TSL)
- Simulator set-up and linked evolution operations
- Linked simulator operations and troubleshooting
- Instructor briefing and debriefing techniques

Demonstrate/Introduce

- TEn+ employment (CPOS/NECC employment if facilities available)

Review

- Environment/weather conditions
- Weapons/ASE configuration
- Systems/Weapons malfunctions
- Threat systems incorporation and capabilities
Friendly system incorporation and capabilities
Instrument/approach functions
Shipboard configuration and functions

Performance Standards
- IUT shall build, save, load, and execute a low to medium threat tactical scenario from the control position.
- IUT shall manipulate TEn map view and De-Clutter options.
- IUT shall manipulate and operate ground fixed, ground mover, airborne players, and IADS.
- IUT shall manipulate and operate aerial and convoy formations.
- IUT shall build, save, load, and employ a Pre-Planned Flight (PPF) for ground and air players.
- IUT shall manipulate and operate off-board laser designators.
- IUT shall manipulate and operate battlefield effects, including smoke, ordnance impacts, and player damage.
- IUT shall manipulate and operate the Group tool for constructive players.
- IUT shall manipulate and operate the Air-to-Ground scoring tool.

Prerequisites.  5100, 5110

External Syllabus Support.  Device operator

Crew.  NSI/IUT

SWTO-5201  1.5  *  B,R,SC  D  S  1  UH-1Y

Goal. OS - Demonstrate/Introduce the ability to instruct UH-1Y daytime mission profiles and review all UH-1Y systems (weapons, ASE, navigation, sensors).

Requirements
- Discuss
  UH-1Y Sensor components, operation, and malfunctions with emphasis on the setup, optimization and employment of the sensor system in all acquisition modes
  UH-1Y navigation system, with emphasis placed on setup and operation for target engagement
  TRM/CRM and instructor techniques
  Weapons systems malfunctions and switchology errors
  Common PUI delivery errors and error analysis
  Weapons delivery and error analysis
  Knowledge and instructional techniques in all weapons training areas
  Crew coordination and comfort level
- Review
  All weapons systems components, operation and employment (e.g. APKWS, flechette, crew-served) weapons systems components, operation and employment
  Ordnance delivery from low and medium altitude
  Combat Assault Transport planning and cockpit management
  Buddy lase procedures
  FARP Procedures
  Rendezvous and join up
  Instructional Techniques

Performance Standards
- The IUT shall plan a training evolution that is designed to be conducted in stations. At a minimum, the stations shall include instruction in the following regimes: FCLPs, reduced visibility landings, landing to a point utilizing a pre-planned IP, FARP procedures, rendezvous and joinup procedures, SWD profiles for guided and unguided ordnance, threat reaction and ASE recognition, and autorotations.
- The IUT shall plan and brief the evolution by stage with the IP acting as a student in both planning and execution. Emphasis should be placed on instructing the prescribed regimes for a new pilot for each stage of the scenario and the ability to recognize and correct errors.
- IUT shall identify and correct ordnance systems malfunctions and switchology problems.
- IUT shall emphasize CRM during weapons delivery and weapons troubleshooting.
- IUT shall demonstrate the ability to instruct landings in a RVL profile/environment.
- IUT shall manage training priorities and time allotted for each station during execution and demonstrate the ability to maximize training utilizing available features of the simulator.
Prerequisites. 5200, 5110

External Syllabus Support. Device operator

Crew. NSI/IUT

**SWTO-5202** 1.5 * B.R.SC. D S/A 1 UH-1Y

Goal. OS - Introduce instruction and scenario development of an OAS mission.

Requirements

Discuss
- Advanced simulation scenario development (METT-TSL)
- Instructor techniques
- OAS/Weapons delivery profile instruction
- Instructor briefing and debriefing techniques

Review
- TEN+ Employment
- Environment/weather conditions
- Weapons/ASE configuration
- Systems/Weapons malfunctions
- Threat systems incorporation and capabilities
- Friendly system incorporation and capabilities

Performance Standards

IUT shall develop a low to medium threat tactical OAS scenario including a MSEL sheet and instruct the conduct of the OAS mission, to include weapons delivery profiles, from either seat. The IUT will plan to execute a minimum of three (3) 9-line attack briefs, and a minimum of one (1) 5-line attack brief.

The IP or an additional copilot will act as the PUI, at the discretion of the IP. Either the IP or the additional copilot will be responsible for briefing the flight, with the IUT providing debrief.

IUT shall utilize simulator functions to maximize instruction and emphasize learning points in the time allotted.

Prerequisites. 5201

**Ordinance.** (7) 2.75 inch rockets, two crew-served weapons [(600).50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available

Crew. NSI/IUT/Co-pilot

**WTO-5203** 1.5 * B D A 2 1 UH-1Y & 1 H-1

Goal. OS - Demonstrate the ability to instruct a tactical event with emphasis on Combat Assault Transport (CAT).

Requirements

Demonstrate
- Standardized CAT planning and briefing
- CRM and instructor techniques during CAT missions
- Range procedures for local ranges

Review
- Power management, fuel planning and route selection
- Aircraft configuration
- AFL responsibilities and authority
- Mission criteria (Go, No-Go, LZ Criteria)
- LZ and alternate LZ planning
- Pickup Zone (PZ) planning
- Escort requirements
- Actions on contact
- Contingency planning
- RVL procedures
Knowledge and instructional techniques in all CAT training areas including the following:
- How to build a scenario
- How to give a quality X
- Briefing and debriefing procedures
- Instructing vs evaluating
- Crew coordination and comfort level

Performance Standards
The IUT will develop a tactical scenario. The IP shall conduct the planning and briefing of the tactical scenario. The IUT shall act as the instructor throughout the planning, briefing and execution of the tactical scenario.
The IUT shall ensure that all ordnance is delivered IAW published range regulations and squadron SOPs.
The IUT shall aid and instruct the IP or copilot during mission planning.
The IUT shall properly identify and correct navigation and timing errors initiated by the IP working towards instructor under training accuracy metric.

Prerequisites 5202

Ordnance (Optional). Two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. LASER safe live fire range with thermally significant targets, if available

Crew. NSI/IUT/CC/AG

WTO-5204 1.5 * B,R,SC D A 2 1 UH-1Y & 1 H-1

Goal. OS - Demonstrate the ability to instruct a tactical event in the aircraft with emphasis on OAS, weapons delivery techniques and tactics standardization.

Requirements
- Demonstrate
  - Standardized attack terminology and communication
  - CRM and instructor techniques during tactical missions and ordnance delivery
  - Range procedures for local ranges
- Review
  - All weapons systems components, operation, and employment
  - Common attack pattern errors and misconceptions
  - Terrain flight ordnance delivery techniques
  - Instructional techniques with emphasis on systems malfunctions/failures and ordnance delivery corrections
  - Knowledge and instructional techniques in all weapons training areas including the following:
    - How to build a scenario
    - How to give a quality X
    - Briefing and debriefing procedures
    - Instructing vs evaluating
    - Crew coordination and comfort level

Performance Standards
The IUT will develop a tactical scenario. The IP shall conduct the planning and briefing of the tactical scenario. The IUT shall act as the instructor throughout the planning, briefing and execution of the tactical scenario.
The IUT shall ensure that all ordnance is delivered IAW published range regulations and squadron SOPs.
The IUT shall properly identify and correct weapons switchology/delivery errors initiated by the IP working towards instructor under training accuracy metric.
For Series Conversion, this will be the last T&R Event flown when converting a WTO or NSI. This event will be flown at night under the evaluation of a current NSI when being used to regain NSI certification from an SC syllabus. At the completion of the SC syllabus culminating with this event under all the performance standards listed above, the converting pilot can regain NSI and TAC(A)I provided they meet the currency and prerequisites established in the MAWTS-1 UH-1 Course Catalog.
Prerequisites.  5202

Ordinance.  (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement.  LASER safe live fire range with thermally significant targets, if available

Crew.  NSI/IUT/CC/AG

2.15.4 Contract Simulator Instructor (CSI)

Purpose.  To develop qualified Contract Simulator Instructors (CSIs) using a standardized instructor program.  This syllabus is designed to prepare CSIs to instruct Core Introduction Phase events in the simulator.

General.  CSIs will complete all events in the simulator.  Events may be conducted from the simulator command position (CP) or the designated UH-1Y crew position at the discretion of the IP.

In order to receive initial designation, CSIs shall complete requirements of applicable civilian contracts and a syllabus agreed upon by the Model Manager and Site Manager. The syllabus should be commensurate with experience in model, previous designations and currency of the proposed CSI and should include a comprehensive review of the Core Introduction Phase simulator events that will be instructed.  In accordance with applicable contracts and CNAF M-3710.7, CSIs shall complete an annual standardization certification with the T/M/S NATOPS Evaluator to ensure compliance and adequate standardization.

Crew Requirements.  As listed at the end of each event and IAW assigned syllabus.

Ground/Academic Training.  IAW MAWTS-1 UH-1 Course Catalog and assigned syllabus.

Contract Simulator Instructor (CSI) Overview

SCSI-5300  1.5  365  B,M  D  S  1  UH-1Y

Goal.  OS – Core Introduction Phase standardization.

Requirements
Discuss
RAC trends and syllabus standardization
Review
Any Core Introduction Phase item

Performance Standards
IUT shall demonstrate the ability to instruct Core Introduction Phase events IAW applicable contracts and publications.

Prerequisite.  Candidate CSI

Crew.  NE/IUT

2.15.5 Fleet Replacement Squadron Instructor (FRSI)

Purpose.  To certify the IUT as a Fleet Replacement Squadron Instructor capable of instructing Core Introduction Phase events.  To familiarize IUT with local area operations, techniques and procedures.  Emphasis will be placed on instructor proficiency, training standardization, and aircraft recovery from various regimes.

General.  IUT must have been designated WTO prior to beginning FRSI training.  In the event of an IUT in need of a refresher syllabus, IUT must be designated PQM prior to beginning FRSI training.  Refresher IUT must be designated WTO prior to FRSI designation.

A 2801 tracking code shall be logged at the completion of the SFRSI-5310.
FRSI-5316 is an event for ANI standardization and is not required to be designated an FRSI. A 6101 tracking code shall be logged at the completion of the event if conditions are met for annual NATOPS check.

FRSI-5317 is the only event required for NSFI designation if IUT is a designated and current NSI. Designation as NSFI after the completion of FRSI-5316 is IAW the MAWTS-1 Course Catalog and is at the discretion of the Commanding Officer. NSFI designation for any other IUT requires completion of the 5600 stage events IAW the MAWTS-1 Course Catalog.

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW HMLAT-303 FRS Course Catalog.

Fleet Replacement Squadron Instructor (FRSI)

FRSI-5310 1.5 * B DS 1 UH-1Y

Goal. LS – Emergency procedures review.

Requirements

Discussions

• RAC tendencies on CRM/ET sims
• Any NATOPS EP, system, limit or MDG procedure

Review

• Engine driven suction pump failure
• Single engine failure
• Dual engine failure at high power and airspeed
• Dual engine failure in flight
• Rotor brake pressurizes in flight
• Dual engine failure during takeoff
• Engine hot start
• Emergency shutdown
• Np underspeed
• Np overspeed
• Engine electrical system failures
• Loss of tail rotor thrust/components in a hover
• Loss of tail rotor thrust/components in flight
• Single engine fire
• Dual engine fire
• Compressor Stall
• Complete electrical failure
• Main drive shaft failure
• Full autorotations

Performance Standards

IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.

Prerequisites. 5202

Crew. CSI or ANI/IUT

FRSI-5311 2.0 * B DA 1 UH-1Y

Goal. LS – Review familiarization maneuvers and instrument procedures.

Requirements

Discussions

• Mission brief
• FAM/INST event techniques, standardization and operating areas
• FAM/INST stage RAC tendencies and risk mitigation
• Any FAM/INST discussion item, maneuver or procedure
• Local course rules and GCA procedures
Review
Course rules/area fam
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
Local GCA procedures

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
IUT shall gain proficiency and knowledge of local area operations and procedures.

Prerequisites 5310

Crew ANI/IUT/CC

FRSI-5312 2.0 * B D A 1 UH-1Y

Goal LS – Review familiarization maneuvers and navigation procedures.

Requirements
Discuss
Mission brief
FAM/NAV event techniques, standardization and operating areas
FAM/NAV stage RAC tendencies and risk mitigation
Any FAM/NAV discussion item, maneuver or procedure

Review
Course rules/area fam
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
Local area operations, techniques and procedures

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
IUT shall gain proficiency and knowledge of local area operations and procedures.

Prerequisites 5310

Crew ANI/IUT/CC
Goal. LS – Review familiarization maneuvers, TERF and CAT.

Requirements

Discuss
Mission brief
FAM/TERF/CAT event techniques, standardization and operating areas
FAM/TERF/CAT stage RAC tendencies and risk mitigation
Any FAM/TERF/CAT discussion item, maneuver or procedure

Review
Course rules/area fam
Hover takeoff
No hover takeoff
Tactical landing profile (RVL)
Precision (steep) approach profile
Hover landing
No hover landing
Sliding landing
High speed approach and landing
Waveoff procedures
SCAS Failure
Single engine failures
Fixed pitch tail rotor malfunctions
High altitude emergencies
TERF maneuvers
Brownout landings
HIE approach
Confined area takeoffs/landings
Tactical approaches
Mountain area landings

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS and MDG.
IUT shall gain proficiency and knowledge of local area operations and procedures.

Prerequisites. 5310

Crew. ANI/IUT/CC/AO

Goal. LS – Review formation flight and tactical formation flight maneuvering.

Requirements

Discuss
FORM event techniques, standardization and operating areas
FORM stage RAC tendencies and risk mitigation
Any FORM stage discussion item, maneuver or procedure

Review
ASTACSOP loss of visual contact
ASTACSOP IIMC
ASTACSOP RIO
Parade flight
Cruise flight
Breakup and rendezvous
Tactical formation maneuvers
Wingman awareness
Formation communication
Lead change
Section tactical landings
FAM sustainment as required

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS, MDG, ASTACSOP and NTTP.
IUT should perform all maneuvers as lead and wingman.

Prerequisites. 5311, 5312, 5313

Crew. ANI/IUT/CC

**FRSI-5315** 2.0  *  B,R  
D  A  1  UH-1Y

Goal. LS – Review weapons systems operation.

Requirements
Discuss
- SWD event techniques, standardization and operating areas
- SWD stage RAC tendencies and risk mitigation
- Any SWD stage discussion item, maneuver or procedure

Review
- Rocket delivery
- Crew served weapons delivery
- Weapons emergencies
- Ordnance communication procedures
- Ordnance checklists
- Range operations and regulations

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all SWD stage procedures, and checklists IAW the UH-1Y NATOPS, MDG, ASTACSOP and NTTP.
IUT shall brief and lead the flight and conduct crew brief. Crew brief shall give special attention to switchology and weapons release authority.
Conduct of the flight should be based on IUT’s currency and proficiency in weapons systems.

Prerequisites. 5311, 5312, 5313

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirements. Live fire LASER safe range

Crew. ANI/IUT/CC/AG

**SFRSI-5316** 1.5  *  B,R  
D  S  1  UH-1Y

Goal. LS - Conduct an Assistant NATOPS Instructor (ANI) standardization check.

Requirements
Discuss
- ANI required events
- Energy management flight techniques
- Standardization during initial FAM stage events
- Standardization during end of stage events
- NATOPS Brief with emphasis on CRM
- Egress procedures

Review
- All FAM stage maneuvers and procedures
- Aircraft emergencies with emphasis on causes, indications and recovery procedures

Performance Standards
IUT shall have a detailed understanding and functional knowledge of all Core Introduction Phase

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procedures and checklists IAW the UH-1Y NATOPS, MDG, ASTACSOP and NTTP.

Prerequisite. Designated FRSI (6002, 6003 if applicable)

Crew. NE/IUT

FRSI-5317 2.0 * B.R NS A 1 UH-1Y


Requirements

Discuss
NVD event techniques, standardization and operating areas
RAC NVD tendencies and risk mitigation
Any NVD event discussion item, maneuver or procedure

Review
NVD portion of NATOPS brief
NVD FAM stage maneuvers
NVD CAT stage maneuvers
NVD TERF stage maneuvers
Local area operations, techniques and procedures

Performance Standards

IUT shall have a detailed understanding and functional knowledge of all procedures and maneuvers IAW the UH-1Y NATOPS, MDG and MAWTS-1 NVD Manual.

IUT shall demonstrate a high level of proficiency in all maneuvers before completing this event.

IUT shall gain proficiency and knowledge of local area operations and procedures.

Prerequisites. 5905, 5311, 5312, 5313 (Current NSI)

Crew. NSI/IUT/CC/AO

2.15.6 Forward Air Controller (Airborne) Instructor FAC(A)I

Purpose. To certify the IUT as a FAC(A)I capable of conducting ground and airborne instruction of FAC(A) missions. Emphasize the ability to coordinate simultaneous FW and RW CAS, surface fires (direct and indirect), while working with a TACP and operating within the MACCS.

General. IUT shall be FAC(A) qualified IAW NAVMC 3500.20 and current/proficient per the JFAC(A) MOA. IUT shall be designated an NSI prior to beginning the FAC(A)I syllabus. IUT shall have logged a year’s worth of FAC(A) controls after being designated a FAC(A)I prior to beginning the FAC(A)I syllabus.

Aircraft should be configured with an operable NTIS, HMSD, LDRS, VTR and IR pointer (night events).

Crew Requirements. IAW MAWTS-1 UH-1 Course Catalog.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

SFACA-5400 1.5 * B (NS) S/A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the FAC(A)I POI.

Ordnance. (7) 2.75 inch RP rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

FACA-5401 1.5 * B (NS) A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the FAC(A)I POI.

Ordnance. (7) 2.75 inch RP rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side, (60) chaff/flares

FACA-5402 1.5 * B,R I (NS) A 2 1 UH-1Y & 1 H-1
Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the FAC(A)I POI.

Ordnance. (7) 2.75 inch RP rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flare.

2.15.7 Night Systems Familiarization Instructor (NSFI)

Purpose. To certify the IUT as an NSFI capable of safely conducting ground and airborne instruction of Night Vision Device (NVD) flight during the Core Introduction Phase.

General. IUT will be Night Systems Qualified (NSQ-HLL) and TERFI prior to beginning training.

Crew Requirements. IAW MAWTS-1 UH-1 Course Catalog.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

\[\text{NSFI-5600} \quad 2.0 \quad * \quad B \quad \text{NS} \quad A \quad 1 \quad \text{UH-1Y}\]

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSFI POI.

\[\text{NSFI-5601} \quad 2.0 \quad * \quad B \quad \text{NS} \quad A \quad 2 \quad \text{1 UH-1Y & 1 H-1}\]

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSFI POI.

\[\text{NSFI-5602} \quad 2.0 \quad * \quad B,R \quad \text{NS} \quad A \quad 1 \quad \text{UH-1Y}\]

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSFI POI.

2.15.8 Tactical Air Coordinator (Airborne) (TAC(A)I)

Purpose. To certify the IUT as a TAC(A)I capable of safely conducting ground and airborne instruction of TAC(A) missions.

General. IUT will be designated a FAC(A) Instructor and TAC(A) qualified prior to beginning training.

Aircraft should be configured with an operable NTIS, HMSD, LDRS, VTR and IR pointer (night event).

Crew Requirements. IAW MAWTS-1 UH-1 Course Catalog.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

\[\text{TACAI-5700} \quad 2.0 \quad * \quad B.R \quad \text{I} \quad \text{(NS)} \quad A \quad 1 \quad \text{UH-1Y}\]

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the TAC(A)I POI.

2.15.10 Defensive Air Combat Maneuvering Instructor (DACMI)

Purpose. To certify the IUT as a Rotary Wing Defensive Air Combat Maneuvering Instructor (RW DACMI) and Fixed Wing Defensive Air Combat Maneuvering Instructor (FW DACMI) capable of safely conducting ground and airborne instruction of the UH-1 air-to-air flight syllabus.

General. IUT will be RW DACM qualified and designated WTO prior to beginning RW DACMI training. IUT will be FW DACM qualified and designated WTO prior to beginning FW DACMI training.

Upon completion of DACMI-5800 and DACMI-5802, the IUT may be designated a RW DACMI, capable of instructing RW DACM T&R Events and the RW DACMI IUT syllabus (DACMI-5800).

Upon completion of DACMI-5801 and DACMI-5803, the IUT may be designated a FW DACMI, capable of instructing FW DACM T&R Events and the FW DACMI IUT syllabus (DACMI-5801).

Aircraft should be configured with an operable NTIS, HMSD, APR-39, ALE-47 and expendables.

Crew Requirements. IAW MAWTS-1 UH-1 Course Catalog.
Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

**DACMI-5800** 2.0 * B D A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the DACMI POI.

Ordnance. (60) flares and TCTS pod (optional)

**DACMI-5801** 2.0 * B I D A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the DACMI POI.

Ordnance. (60) flares and TCTS pod (optional)

**DACMI-5802** 2.0 * B,R D A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the DACMI POI.

Ordnance. (60) flares and TCTS pod (optional)

**DACMI-5803** 2.0 * B,R I D A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the DACMI POI.

Ordnance. (60) flares and TCTS pod (optional)

2.15.10 **Night Systems Instructor (NSI)**

Purpose. To certify the IUT as an NSI capable of safely conducting ground and airborne instruction of the UH-1Y Night Vision Device (NVD) flight syllabus.

General. IUT will be Night Systems Qualified- Low Light Level (NSQ-HLL) and designated WTO prior to beginning training.

Aircraft should be configured with an operable NTIS, HMSD, LDRS, VTR, APR-39, ALE-47 and crew served mounted IR pointers.

Crew Requirements. IAW MAWTS-1 UH-1 Course Catalog.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

**SNSI-5900** 1.5 * B NS S/A 1 UH-1Y

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

**NSI-5901** 2.0 * B NS A 1 UH-1Y

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

**NSI-5902** 2.0 * B NS A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

Ordnance. (14) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with thermally significant targets, if available.

**SNSI-5903** 1.5 * B NS S/A 1 UH-1Y

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

Ordnance. If flown in aircraft, (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares
Range Requirement. If flown in aircraft, live fire LASER safe range with thermally significant targets, if available.

NSI-5904 2.0 * B,R NS A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

Ordnance. If flown in aircraft, (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. If flown in aircraft, live fire LASER safe range with thermally significant targets, if available.

NSI-5905 2.0 * B,R I NS A 2 1 UH-1Y & 1 H-1

Requirement. Reference the MAWTS-1 UH-1 Course Catalog for the NSI POI.

Ordnance. If flown in aircraft, (14) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (3000) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

2.15.11 Flight Leadership Standardization Evaluator (FLSE)

Purpose. To certify and designate the pilot as a FLSE.

General. FLSEs ensure flight leadership standardization across all squadrons. The FLSE shall conduct a standardized evaluation of a prospective flight leader’s ability to safely and effectively perform the duties as a flight lead. Prospective FLSEs shall complete the POI listed below. Upon completion of the POI, the squadron commanding officer will nominate the prospective FLSE to the MAG commanding officer for approval and designation. FLSE-5920 is not required for Weapons and Tactics Instructor Course (WTI) graduates that do not require Refresher training. Designated FLSEs are required to complete annual standardization training with the Program Coordinator. Refer to NAVMC 3500.14 and the UH-1 MAWTS-1 Course Catalog.

Re-designation. FLSE re-designation criteria for aircrew that do not require Core Introduction Refresher training is at the discretion of the MAG CO. For aircrew who require Core Introduction Refresher training, the minimum re-designation requirement for FLSE positions is successful completion of the R-coded T&R FLSE POI.

Crew requirements. Shall be determined by the Wing FLSE Program Coordinator or the FLSE Model Manager.

Academic/Ground Training. IAW MAWTS-1 UH-1 Course Catalog.

FLSE-5920 2.0 * B,R (NS) A 2 1 UH-1Y & 1 H-1

Goal. OS - To certify the IUT to be designated a FLSE.

Requirement. IAW MAWTS-1 UH-1 Course Catalog.

Performance Standard. IAW MAWTS-1 UH-1 Course Catalog.

Prerequisite. 5905, 6598 (Designated DL and NSI)

External Syllabus Support. Program Coordinator.

FLSE-5921 0.0 365 B,R,SC,M (N) G

Goal. Complete annual FLSE training with the Program Coordinator.

Requirement. Annual training with the FLSE Program Coordinator.

Performance Standard. Successful completion of the annual FLSE training.
Prerequisite: 5920

External Syllabus Support: Program Coordinator
2.16 REQUIREMENTS, QUALIFICATIONS AND DESIGNATIONS (RQD) ACADEMICS PHASE (6000)

Purpose. To develop standardized flight leadership skills and knowledge. These academics review and emphasize procedural based knowledge, systems knowledge/nomenclature, and advanced Joint/MAGTF topics to ensure individuals possess the requisite knowledge and ability to command their aircraft and lead flights.

General. These academics are intended to be an integrated series of academic lectures, readings and practical application contained within each phase of training. The lectures, readings and chalk-talks are contained in the MAWTS-1 UH-1 Course Catalog. The academic courseware is a requirement. At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the individual pilot, contract instructor or squadron operations personnel, as appropriate. The codes listed below associated with these classes may not be the most up to date as the current UH-1 Course Catalog is the master document for stage academic requirements.

Flight leadership academic events are listed below.

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<th>REQUIREMENTS, QUALIFICATIONS AND DESIGNATIONS ACADEMIC PHASE</th>
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<td>ACPM-8300</td>
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SECTION LEADER

| ACAD-6040         | Intel Prep of the Battlespace     |
| ACAD-6041         | (S) MAGTF Targeting and Fire Support Planning* |
| ACAD-6042         | JTAC-Aircrew Integration          |

AIR MISSION COMMANDER

| ACAD-6071         | Air Mission Commander             |

*Indicates classes that should be presented to all pilots annually.

2.17 REQUIREMENTS, QUALIFICATIONS AND DESIGNATIONS (RQD) PHASE (6000)

Purpose. To outline the requirements for qualifications, designations and flight leadership.

General. Once the flight to attain the qualification/designation is complete, a letter from the squadron commanding officer awarding the qualification/designation shall be placed in the NATOPS and APR before that qualification/designation can be utilized.

Completion of the INST-6100 sortie meets the requirements for the PUI to be instrument qualified. At the discretion of the squadron commanding officer a letter designating the PUI as Instrument qualified shall be placed in the NATOPS jacket and APR.

Completion of the NTPS-6101 sortie meets the requirements for the PUI to be NATOPS qualified. At the discretion of the squadron commanding officer a letter assigning the PUI as NATOPS qualified shall be placed in the NATOPS jacket and APR.

Completion of FCF stage meets the requirements for the PUI to be eligible for the FCP designation. At the discretion of the squadron commanding officer a letter designating the PUI as an FCP shall be placed in the NATOPS jacket and APR.

Completion of the Core Phase and the Mission Phase meets the requirements for the PUI to be eligible for the UHC designation. Upon completion of the DESG-6398 event and refly of SWD-2605 meeting Mission Skills ordnance accuracy standards, and at the discretion of the squadron commanding officer, a letter designating the PUI as an UHC shall be placed in the NATOPS jacket and APR.
Completion of the Section Lead Stage SL-6498 meets the requirements for the PUI to be eligible for the Section Lead designation. At the discretion of the squadron commanding officer a letter designating the PUI as Section Lead shall be placed in the NATOPS jacket and APR.

Completion of the Division Lead Stage DL-6598 stage meets the requirements for the PUI to be eligible for the Division Lead designation. At the discretion of the squadron commanding officer a letter designating the PUI as Division Lead shall be placed in the NATOPS jacket and APR.

Completion of the FL-6698 sortie meets the requirements for the PUI to be eligible for the Flight Lead designation. At the discretion of the squadron commanding officer a letter designating the PUI as Flight Lead shall be placed in the NATOPS jacket and APR.

Completion of the AMC-6798 sortie meets the requirements for the PUI to be eligible for the AMC designation. At the discretion of the squadron commanding officer a letter designating the PUI as AMC shall be placed in the NATOPS jacket and APR.

The following stages are included in the Requirements, Qualifications and Designation (RQD) phase.

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<th>PAR NO.</th>
<th>REQUIREMENTS, QUALIFICATIONS AND DESIGNATIONS PHASE</th>
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<td>2.17.10</td>
<td>Air Mission Commander (AMC)</td>
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<tr>
<td>2.17.11</td>
<td>Specific Operations Tracking Codes (SOTC)</td>
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</tbody>
</table>

Ordnance Delivery. At the completion of applicable stages, the PUI will have demonstrated increased accuracy during ordnance delivery and proper use of the NTIS under varied threat conditions with mixed ordnance loads. For the UHC, SL, DL and FL stages, the PUI shall meet the ordnance metrics outlined for the Mission Skills Phase. See Paragraph 2.16. DVR debrief should be used to the maximum extent possible. Emphasis will be on CRM and Tactical Risk Management (TRM) while utilizing the ordnance systems.

Navigational Accuracy. At the completion of applicable stages, the PUI will have demonstrated increased navigational accuracy and timeliness during assault support operations, under varied threat conditions. For the UHC, SL, DL and FL stages, the PUI shall meet the ordnance metrics outlined for the Mission Phase. See Paragraph 2.16. IP shall use MPS or aircraft systems to assess landing point accuracy.

2.17.1 **Instrument Rating (INST)**

**Purpose.** To certify the PUI as instrument rated.

**General.** The instrument rating is an annual requirement. The PUI shall log annual instrument minimum requirements prior to event IAW CNAF M-3710. A designated instrument Instructor, who is a member of the Instrument Flight Board (IFB), shall evaluate INST-6100.

Aircraft shall be configured with an operable NAVAID/TACAN.

**Crew Requirements.** As listed at the end of each event.

**Ground/Academic Training.** IAW CNAF M-3710.7.

| INST-6000 | 8.0 | 365 | B,R,SC,M | G | IGS |

2-129
Goal. Attend an TYCOM approved instrument ground school per CNAF M-3710.7.

Performance Standards. Achieve a grade of qualified IAW CNAF M-3710.7.

INST-6001 1.0 365 B,R,SC,M G IGS EXAM

Goal. To evaluate the airman’s knowledge of instrument flight and procedures.

Performance Standards. Achieve a grade of qualified IAW CNAF M-3710.7.

INST-6100 1.5 365 B,R,SC,M I (N*) A/S 1 UH-1Y

Goal. OS - Conduct an annual instrument check.

Requirement. Successfully conduct the check IAW the NATOPS, MDG, CNAF M-3710.7 and Instrument Flight Manual (IFM).

Performance Standards. IAW the NATOPS, MDG, CNAF M-3710.7 and Instrument Flight Manual (IFM).

Prerequisite. 6000, 6001 and IAW CNAF M-3710.7

Crew. BIP+IFBM/PUI

2.17.2 NATOPS Qualification

Purpose. To certify the PUI as NATOPS qualified in the UH-1Y.

General. The NATOPS qualification is an annual requirement. A designated NATOPS Evaluator/Instructor/Assistant NATOPS Instructor shall evaluate NTPS-6101.

To the greatest extent possible, an EP review (FAM-2801) will be conducted in the same month as the annual NATOPS check (NTPS-6101). The annual CRM evaluation (CRM-6102) should be completed in conjunction with the annual NATOPS check, when possible.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW NATOPS.

NTPS-6002 1.0 365 B,R,SC,M D G Open Book Eval

Goal. To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations.

Performance Standards. Achieve a grade of qualified IAW NATOPS.

NTPS-6003 2.0 365 B,R,SC,M D G Closed Book Eval

Goal. To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations.

Performance Standards. Achieve a grade of qualified IAW NATOPS.

NTPS-6004 1.0 365 B,R,SC,M D G Oral NATOPS Eval

Goal. To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations.

Performance Standards. Achieve a grade of qualified IAW NATOPS.

NTPS-6101 1.5 365 B,R,SC,M I (N) A/S 1 UH-1Y

Goal. OS - Conduct an annual NATOPS check

Requirement. Successfully conduct the evaluation IAW CNAF M-3710.7 and NATOPS
### Performance Standards
IAW CNAF M-3710.7 and NATOPS

### Prerequisites
- Grade of qualified on 6002, 6003, 6004
- NI or ANI /PUI

### Crew Requirements
- NI or ANI /PUI

### Performance Standards
IAW CNAF M-3710.7 and NATOPS

#### NTPS-6105

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>IAW CNAF M-3710.7 and NATOPS</th>
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</thead>
<tbody>
<tr>
<td>Goal</td>
<td>To obtain designation as an Assistant NATOPS Instructor (ANI).</td>
</tr>
</tbody>
</table>

#### Prerequisites
- 6002, 6003, 6004 (BIP+CRMF)

### Crew
- NI/IUT

#### NTPS-6106

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>IAW CNAF M-3710.7. Completion of this event meets the requirements to be eligible for the NI designation. At the discretion of the commanding officer a letter designating the IUT as NI shall be placed in the NATOPS jacket.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>To obtain designation as a NATOPS Instructor (NI).</td>
</tr>
</tbody>
</table>

#### Prerequisites
- 6002, 6003, 6004 (BIP+CRMF)

### Crew
- NE/IUT

#### NTPS-6107

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>IAW CNAF M-3710.7. Completion of this event meets the requirements to be eligible for the NE designation. At the discretion of the commanding officer a letter designating the IUT as NE shall be placed in the NATOPS jacket.</th>
</tr>
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<tbody>
<tr>
<td>Goal</td>
<td>To obtain designation as a NATOPS Evaluator (NE).</td>
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</table>

#### Prerequisites
- 6002, 6003, 6004 (FRSI+CRMI)

### Crew
- FRS Commanding Officer or NE/IUT

2.17.3 Annual Crew Resource Management (CRM) Evaluation

#### Purpose
Conduct annual CRM ground training and flight evaluation.

#### General
Completion of this stage meets the requirements for the annual CRM flight evaluation and ground training.

The CRM-6102 event may be logged in conjunction with any operational or training flight. However, it should be completed in conjunction with the annual NATOPS check, when possible.

CRM training and flight evaluations shall be logged in the individual NATOPS Flight Personnel Training/Qualification Jacket in section II, part C on enclosure (4). In addition to Section II part C entries, CRM flight evaluation shall be commented on in the remarks section of the NATOPS evaluation form when the flight is flown in conjunction with NTPS-6101. Additionally annual CRM flight evaluations shall be documented in the individual aircrew logbooks.

#### Crew Requirements
- CRMF (CRMF Designated NSI)
Ground/Academic Training. IAW CNAFINST 1542.7 series.

CRM-6005 1.0 365 B,R,SC,M G CRM Ground

Goal. Receive annual CRM training.

Requirement. IAW CNAFINST 1542.7 series receive instruction in CRM history, Seven Critical Skills, CNAFINST 1542.7 series and a T/M specific case study or scenario.

CRM-6102 0.0 365 B,R,SC,M (N) A/S 1 UH-1Y

Goal. OS - Conduct an annual Crew Resource Management evaluation.

Requirement. Successfully conduct the evaluation IAW CNAF M-3710.7 and NATOPS. The evaluation should be conducted in conjunction with the annual NATOPS evaluation flight, when possible.

Performance Standards. IAW CNAFINST 1542.7 series and NATOPS

CRM-6103 0.0 * B,R,SC G CRMF

Goal. To obtain designation as a Crew Resource Management Facilitator (CRMF).

Requirement. Complete the requirements specified per CNAFINST 1542.7. Completion of this event meets the requirements to be eligible for the CRMF designation. At the discretion of the commanding officer a letter designating the PUI as CRMF shall be placed in the NATOPS jacket and APR.

Performance Standards. IAW CNAFINST 1542.7 series.

CRM-6104 0.0 * B I G CRMI

Goal. To obtain designation as a Crew Resource Management Instructor (CRMI).

Requirement. Complete the requirements specified per CNAFINST 1542.7. Completion of this event meets the requirements to be eligible for the CRMI designation. At the discretion of the commanding officer a letter designating the PUI as CRMI shall be placed in the NATOPS jacket and APR.

Performance Standards. IAW CNAFINST 1542.7 series.

2.17.4 Functional Check Flight Pilot (FCP)

Purpose. To introduce, and develop proficiency in, and evaluate FCF procedures.

General. PUI shall demonstrate an understanding of, and proficiency in, the maintenance procedures involved in FCFs. PUI shall also demonstrate a detailed knowledge of aircraft systems and administrative maintenance procedures. Upon completion of FCP-6204 and with the AMO’s recommendation, and at the discretion of the squadron commanding officer, a letter designating the PUI as a FCP shall be placed in the NATOPS jacket and APR.

Aircraft may be FMC or PMC.

PUI shall be a PQM prior to FCP-6204.

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. Selected reading material from CNAFINST 4790, UH-1Y NATOPS, SOPs, and MIMs as designated by each squadron commanding officer. PUI must also complete a locally generated FCP open and closed-book exams.
FCP-6006 1.0 * B,R D G FCP Open Book

**Goal.** Successful completion of the FCP open-book exam.

FCP-6007 1.0 * B,R D G FCP Closed Book

**Goal.** Successful completion of the FCP closed-book exam.

SFCP-6200 1.5 * B,R,SC D S 1 UH-1Y

**Goal.** OS – Demonstrate FCF procedures.

**Requirements**

Discuss

- ODO brief procedures
- FCF paperwork process
- ADB contents
- Crew requirements/authorized crewmembers
- Weather requirements
- Testing areas
- QA brief
- FCF profiles
- The proper completion of M-SHARP/NALCOMIS/OOMA paperwork following FCFs
- Emergency procedures during FCFs
- Structural vs. access panels
- Functional ground turn requirements
- The importance of proper pre-flights and post-flights

Demonstrate

- All items in the FCF Checklist
- If conducted in an aircraft, demonstrate IMD-HUMS procedures for main/tail rotor track & balance and vibration diagnostics

**Performance Standards**

IAW NATOPS, CNAFINST 4790, and local SOPs.

PUI shall demonstrate familiarity with systems, FCF checklists, procedures, and maneuvers while conducting an “A” profile.

**Prerequisites.** 6300, 6006, successful completion of FCP open book and readings

**Crew.** BIP+FCP/PUI/(CC)

SFCP-6201 1.5 * B D S/A 1 UH-1Y

**Goal.** RS – Introduce FCF procedures.

**Requirements**

Discuss

- Hydraulic samples
- Safe for flight items
- Engine rigging and trim adjustments
- DECU, HMU, and ODV operation
- Overspeed protection
- Ground/hover, in-flight, and maximum power assurance/checks
- Torque repeatability
- WOG initialization
- $N_R$ droop check
- Control motion transducer check

Introduce

- All items in the FCF checklist
- If conducted in an aircraft, introduce IMD-HUMS procedures for main/tail rotor track & balance and vibration diagnostics
In-flight procedures

Performance Standards
IAW NATOPS, CNAFINST 4790, and local SOPs.
PUI shall demonstrate familiarity with systems, FCF checklists, procedures, and maneuvers while conducting an “A” profile.

Prerequisite. 6200

Crew. BIP+FCP/PUI/CC

FCP-6202 1.5 * B D A 1 UH-1Y

Goal. OS - Introduce main and tail rotor track & balance and vibration diagnostics.

Requirements
Discuss
- IMD-HUMS procedures for main and tail rotor track & balance
- Ground/in-flight vibration diagnostics
- Crew swap function
- Ground and flight regimes for rotor track and balance and vibration diagnostics
- Methods for obtaining & making corrections
- Use of optical tracker
- Autorotation RPM
Demonstrate/Introduce
- Main and tail rotor track & balance and vibration diagnostics

Performance Standards
IAW NATOPS, CNAFINST 4790, and local SOPs.
PUI shall demonstrate knowledge and comprehension of main and tail rotor track and balance/vibanal procedures. PUI must also observe track and balance/vibanal equipment installation and preflight, post-flight results, and subsequent adjustments.

Prerequisites. 6201

Crew. BIP+FCP/PUI/CC

SFCP-6203 1.5 365 B,R,SC,M D S/A 1 UH-1Y

Goal. RS – Review FCF procedures.

Requirements
Discuss
- AMU Ground Station software
- Use of IMD-HUMS for viewing systems indications
- Shipboard FCF procedures
- MESM
- Hydraulic samples, functional check flight (FCF) vs. functional ground turn (FGT) procedures and requirements, daily and turnaround inspections

Review
- All FCF procedures
- Completion of track & balance and vibration diagnostics may be simulated

Performance Standards
IAW NATOPS, CNAFINST 4790, and local SOPs.
PUI shall demonstrate knowledge of systems, FCF checklists, procedures, and maneuvers while conducting an “A” profile.
Prerequisites. 6202

Crew. BIP+FCP/PUI/CC

FCP-6204 1.5 * B.R,SC D A 1 UH-1Y

Goal. RS – Conduct FCP Evaluation.

Requirements
Discuss
Any FCF procedure, regulation, SOP, or aircraft system
Evaluate
PUI on brief, FCF, and debrief procedures

Performance Standards
PUI shall conduct an “A” profile FCF. Completion of track & balance and vibration diagnostics may be simulated.
IAW NATOPS, CNAFINST 4790, and local SOPs.
PUI shall demonstrate familiarity with systems, FCF checklists, procedures, and maneuvers while conducting an “A” profile.

Prerequisites. 6007, 6203

Crew. BIP+FCP/PUI/CC

2.17.5 Pilot Qualified in Model (PQM)

Purpose. Tracking code for PQM.

General. Completion of the Core Introduction Phase meets the requirements for the PUI to be PQM. Upon completion of the CIX-1901, and the designation by the squadron commanding officer, a letter assigning the PUI as PQM shall be placed in the NATOPS jacket, APR and a proficiency code of DESG-6300 shall be logged.

Crew Requirements. As listed at the end of the event.

Ground/Academic Training. As outlined in Core Introduction Phase.

DESG-6300 1.5 * B.R I (N) A 1 UH-1Y

Goal. OS - Qualify the PUI as PQM.

Requirement. Completion of the Core Introduction Phase.

Prerequisite. 8200, 1901

2.17.6 Utility Helicopter Commander (UHC)

Purpose. To qualify the PUI as a Utility Helicopter Commander (UHC).

General. Completion of the Core Phase and the Mission Phase [with the exception of FAC(A)] meet the requirements for the PUI to be eligible for the UHC designation. Upon completion of the DESG-6398 event and a refly of SWD-2605 meeting Mission Skills ordnance accuracy standards, and at the discretion of the squadron commanding officer, a letter designating the PUI as a UHC shall be placed in the NATOPS jacket and APR.

The UHC evaluation shall be conducted as a separate flight as a wingman The DESG-6398 shall be logged in conjunction with a previously flown Mission Skill Phase sortie for the evaluation flight.
Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, DVR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements. As listed at the end of the event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

DES-6398  1.5 * B,R,SC I (NS) A 2  1 UH-1Y & 1 H-1

Goal. OS – To qualify the PUI as a Utility Helicopter Commander (UHC).

Requirements

Discus

All aircraft ordnance and ASE systems

Review

Ordnance pre-flight checks
All ordnance emergencies
SWD and ordnance delivery profiles
Knowledge of local range regulations
SOPs for ordnance delivery

Performance Standards

PUI shall conduct cockpit debrief, with focus on weapons considerations.
PUI shall demonstrate knowledge of local range regulations and SOPs for ordnance delivery.
PUI shall demonstrate successful employment of crew served weapons at ranges 300-2000 meters and 2.75 inch rockets at ranges from 500-1200 meters, exhibiting proper impact detection and adjustment, while attaining Mission Skills accuracy standards.
PUI shall exhibit a thorough understanding of all weapons systems and safely employ ordnance systems IAW UH-1Y NTTP/NTRP/NATOPS.
PUI shall conduct cockpit debrief, assessing weapons switchology and accuracy using videotape review.
For Series Conversion this event may be flown in conjunction with the last 3000 SC event as the completion of the 2000 and 3000 Series Conversion. The event must include night tactical landings to an unimproved location in addition to the performance standards listed above. Upon completion of this Event during the Series Conversion syllabus, all flight leadership and FAC(A) qualifications will convert.

Prerequisites. 8300, 6300, Core Phase and Mission Phase complete.

Ordnance. (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range

Crew. WTO(NSI)/PUI/CC/AG

2.17.7 Section Leader

Purpose. To prepare and evaluate a prospective section lead’s ability to plan, brief, lead and debrief a section.

General. PUI shall conduct the following day and night workup sorties in order to develop the prospective section lead’s flight leadership. At the discretion of the commanding officer, cross-cockpit instruction is authorized. SL-6498 shall be evaluated by a designated MAG Flight Lead Stan Evaluator (FLSE) from a different command within the MAG.

The IP will use the sortie requirement criteria to determine whether the PUI completed the sortie. The PUI will use the performance standards to debrief the flight. Completion of the SL syllabus meets the requirements for designation as a Section Leader. At the discretion of the squadron commanding officer, a letter designating the pilot as Section Leader shall be placed in the NATOPS jacket and APR.
In order to complete the Section Leader stage, two of the three flights shall be conducted with ordnance. One of the ordnance flights shall be conducted during the day and one shall be conducted at night. Consideration should be given to making the Section Lead check (SL-6498) an ordnance event.

At least one event shall be an assault support mission and at least one event shall be an OAS or escort mission. The assault support mission will have a preplanned L-HR and associated IP to LZ timing.

At least one of the events shall be conducted with 2 UH-1Ys and at least one of the events shall be a mixed section.

PUI shall have a minimum of 50 hours as a designated UHC and three flights in wingman position as a designated UHC prior to the completion of the 6498. Additionally, during the 50 hour prerequisite period, the PUI shall brief and lead a minimum of 2 sections, prior to beginning the section lead syllabus (SOTC-6907). A maximum of one brief and lead event can be conducted in the simulator using the Tactical Environment Network and at least one networked, man-in-the-loop simulator.

PUI shall be evaluated on ordnance delivery utilizing Core Skill Plus ordnance accuracy standards, paragraph 2.16 and navigational accuracy metrics utilizing Core Plus/Mission Plus Skills navigational accuracy standards, paragraph 2.16.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

SL-6400 1.5 * B D A 2 1 UH-1Y & 1 H-1

Goal. OS – Tactically employ a section in a low to medium threat environment during the conduct of a day OAS, escort or assault support mission. Emphasize safety, route planning, CRM critical skills, flight member responsibilities, threat counter-tactics, ASTACSOP, fuel management and communications.

Requirements
- Plan, brief, lead and debrief a day OAS, escort, or assault support mission
- Develop a plan that supports the ground SOM and commander’s intent of the supported unit
- Plan and brief section mechanics (objective area maneuver)
- Plan and brief section threat reactions
- Plan and brief rendezvous and join-up per ASTACSOP/NTTP and tactical situation
- Brief penetration/de-penetration/offensive checklist procedures
- Use all available planning tools to plan and brief route considerations, sensor acquisition, and target engagement
- Conduct a minimum of one section take-off and one section landing
- Maneuver section using appropriate formations and signals
- Conduct a rendezvous and join-up
- Demonstrate applicable threat counter-tactics
- Locate, plot and effectively engage target(s) with the appropriate assets (if applicable)
- Direct attacks against target(s)
- Control section during en route and objective area operations
- Delegate tasks within flight and cockpit
- Conduct the debrief, covering pertinent section specifics and learning points

Performance Standards
- PUI shall brief IAW ASTACSOP/NTTP
- PUI shall maintain situational awareness of wingman and mutual support during en route portion of flight and in the objective area.
PUI shall effectively control the section throughout the flight.
PUI shall locate targets in a timely manner.
PUI shall engage target(s) using TTPs appropriate for the scenario.
PUI shall minimize threat exposure and use appropriate threat counter-tactics.
PUI shall use TRANSEC/COMSEC for all communications.
PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

Prerequisites. 6398, 6907. Minimum of 50 hours as designated UHC and three flights in wingman position as a designated UHC. Additionally, during the 50 hour prerequisite period the PUI shall brief and lead a minimum of 2 sections (6907).

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with appropriate LZ.

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. NSI/PUI/CC/AO(AG)

Goal. OS – Tactically employ a section in a medium to high threat environment during the conduct of a night OAS, escort or assault support mission. Emphasize safety, range regulations, night formation considerations, sensor acquisition and hand-off, night rendezvous and join-up procedures, aircraft lighting, section IIMC procedures and wingman awareness.

Requirements
- Plan, brief, lead and debrief a night OAS, escort, or assault support mission
- Develop a plan that supports the ground SOM and commander’s intent of the supported unit
- Plan and brief section mechanics (objective area maneuver)
- Plan and brief landing plan and fire support plan
- Plan and brief section threat reactions
- Use all available planning tools to plan and brief night considerations including illumination, shadowing, sensor effectiveness, and target acquisition/engagement/avoidance.
- Brief appropriate FAA and Tactical lighting configurations
- Conduct a minimum of one night section take-off and one night section landing
- Maneuver section using formations and tactics appropriate for ambient illumination
- Demonstrate applicable threat counter-tactics
- Locate, plot, and effectively engage target(s) with appropriate assets (if applicable)
- Control section during en route and objective area operations
- Delegate tasks within flight and cockpit
- Conduct the debrief, covering pertinent section specifics and learning points

Performance Standards
- PUI shall brief IAW ASTACSOP/NTTP,
- PUI shall maintain situational awareness of wingman and mutual support during en route portion of flight and in the objective area.
- PUI shall effectively control the section throughout the flight.
- PUI shall locate targets in a timely manner.
- PUI shall engage target(s) using TTPs appropriate for the scenario.
- PUI shall minimize threat exposure and use appropriate threat counter-tactics.
- PUI shall use TRANSEC/COMSEC for all communications.
- PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

**Prerequisites.** 6398, 6907

**Ordnance (Optional).** (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

**Range Requirement.** Live fire LASER safe range with appropriate LZ and thermally significant targets, if available

**External Syllabus Support.** One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

**Crew.** NSI/PUI/CC/AO(AG)

**Goal.** OS – Tactically employ a section in a low to medium threat environment during the conduct of a day or night OAS, escort, or assault support mission. Emphasis shall be placed on safety, range regulations, mission planning, weapons effects/SDZs, PGM employment, identification of targets and friendly personnel, FARP operations, LZ operations, ASTACSOP and wingman awareness.

**Requirements**

- Plan, brief, lead and debrief a day OAS, escort, or assault support mission
- Develop a plan that supports the ground SOM and commander’s intent of the supported unit
- Plan and brief section mechanics (objective area maneuver)
- Plan and brief section threat reactions
- Plan and brief rendezvous and join-up per ASTACSOP/NTTP and tactical situation
- Brief penetration/de-penetration/offensive checklist procedures
- Use all available planning tools to plan and brief route considerations, sensor acquisition, and target engagement
- Conduct a minimum of one section take-off and one section landing Maneuver section using appropriate formations and signals
- Conduct a rendezvous and join-up
- Demonstrate applicable threat counter-tactics
- Locate, plot and effectively engage target(s) with the appropriate assets (if applicable)
- Direct attacks against target(s)
- Control section during en route and objective area operations
- Delegate tasks within flight and cockpit
- Conduct the debrief, covering pertinent section specifics and learning points

**Performance Standards**

- PUI shall brief IAW ASTACSOP/NTTP.
- PUI shall maintain situational awareness of wingman and mutual support during en route portion of flight and in the objective area.
- PUI shall effectively control the section throughout the flight.
- PUI shall locate targets in a timely manner.
- PUI shall engage target(s) using TTPs appropriate for the scenario.
- PUI shall minimize threat exposure and use appropriate threat counter-tactics.
- PUI shall use TRANSEC/COMSEC for all communications.
- PUI shall adhere to local course rules and comply with applicable range regulations.
- PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

**Prerequisite.** 8600, 6400, 6401.

**Ordnance (Optional).** (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares
Range Requirement. Live fire LASER safe range with appropriate LZ

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. FLSE/PU/CC/SAO(AG)

2.17.8 Division Leader (DL)

Purpose. To prepare and evaluate a prospective division lead’s ability to plan, brief, lead and debrief a division.

General. PUI shall conduct the following day and night workup sorties in order to develop the prospective division lead’s flight leadership. At the discretion of the commanding officer cross-cockpit instruction and mixed divisions are authorized.

The IP will use the sortie requirement criteria to determine whether the PUI completed the sortie. The PUI will use the performance standards to debrief the flight. Completion of the DL syllabus meets the requirements for designation as a Division Leader. At the discretion of the squadron commanding officer, a letter designating the pilot as Division Leader shall be placed in the NATOPS jacket and APR.

In order to complete the Division Leader stage, two of the three flights shall be conducted with ordnance. One of the ordnance flights shall be conducted during the day and one shall be conducted at night. Consideration should be given to making the Division Lead check (DL-6598) an ordnance event.

At least one Event shall be an assault support mission and at least one Event shall be an OAS or escort mission. The assault support mission will have a preplanned L-HR and associated IP to LZ timing.

At least one of the Events should be conducted with 3+ UH-1Ys. During the conduct of all OAS/ESC missions, at least one attack shall be conducted as a division.

PUI shall have led three flights as a designated Section Leader (SL) prior to beginning the Division Lead syllabus. PUI shall also have a minimum of: 600 total hours, 200 rotary wing hours, and 50 hours in model.

PUI shall be evaluated on ordnance delivery utilizing Core Skill Plus ordnance accuracy standards, paragraph 2.16, and navigational accuracy metrics utilizing Core Plus/Mission Plus Skills navigational accuracy standards, paragraph 2.16.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements. As listed at the end of each Event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

| DL-6500 | 1.5 | * | B | D | A | 3+ | 1 UH-1Y & 2+ H-1 |

Goal. OS - Tactically employ a division in a low to medium threat environment during the conduct of a day OAS, escort or assault support mission. Emphasize route planning, flight member responsibilities, division formations and maneuvering, threat counter-tactics, ASTACSOP, division attacks and communication.

Requirements
Plan, brief, lead and debrief a day OAS, escort, or assault support mission
Develop a plan that supports the ground SOM and command’s intent of the supported unit
Plan and brief division mechanics (objective area maneuver)
Plan and brief division threat reactions
Plan and brief rendezvous and join-up per ASTACSOP/NTTP and tactical situation
Brief penetration/de-penetration/offensive checklist procedures
Use all available planning tools to plan and brief route considerations, sensor acquisition, and target engagement
Conduct division take-off/landing, scatter plan/rendezvous, and lost communication procedures
Maneuver division using appropriate formations and signals
Conduct a rendezvous and join-up
Demonstrate applicable threat counter-tactics
Locate, plot and effectively engage target(s) with the appropriate assets (if applicable)
Direct attacks against target(s)
Control division during en route and objective area operations
Delegate tasks within flight and cockpit
Conduct the debrief, covering pertinent division specifics and learning points

Performance Standards
PUI shall brief IAW ASTACSOP/NTTP.
PUI shall maintain situational awareness of wingmen and mutual support during en route portion of flight and in the objective area.
PUI shall effectively control the division throughout the flight.
PUI shall locate targets in a timely manner.
PUI shall engage target(s) using TTPs appropriate for the scenario.
PUI shall minimize threat exposure and use appropriate threat counter-tactics.
PUI shall use TRANSEC/COMSEC for all communications.
PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

Prerequisites. 6498, Lead a minimum of three flights as a designated Section Lead. Minimum of: 600 total hours, 200 rotary wing hours, and 50 hours in model.

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with appropriate LZ

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. NSI+DL/PUI/CC/AO(AG).

Goal. OS - Tactically employ a division of in a medium to high threat environment during the conduct of a night OAS, escort mission or assault support mission. Emphasize night formation considerations, sensor acquisition, flight member responsibilities, division lighting, ASTACSOP, division attacks, PGM employment and communication.

Requirements
Plan, brief, lead and debrief a night OAS, escort, or assault support mission
Develop a plan that supports the ground SOM and commander’s intent of the supported unit
Plan and brief division mechanics (objective area maneuver)
Plan and brief landing plan and fire support plan
Plan and brief division threat reactions
Use all available planning tools to plan and brief night considerations including illumination, shadowing, sensor effectiveness, and target acquisition/engagement/avoidance.
Brief appropriate FAA and Tactical lighting configurations
Conduct a minimum of one night division take-off and one night division landing
Maneuver division using formations and tactics appropriate for ambient illumination
Demonstrate applicable threat counter-tactics
Locate, plot, and effectively engage target(s) with appropriate assets (if applicable)
Control division during en route and objective area operations
Delegate tasks within flight and cockpit
Conduct the debrief, covering pertinent division specifics and learning points

Performance Standards
PUI shall brief IAW ASTACSOP/NTTP.
PUI shall maintain situational awareness of wingmen and mutual support during en route portion of flight and in the objective area.
PUI shall effectively control the division throughout the flight.
PUI shall locate targets in a timely manner.
PUI shall engage target(s) using TTPs appropriate for the scenario.
PUI shall minimize threat exposure and use appropriate threat counter-tactics.
PUI shall use TRANSEC/COMSEC for all communications.
PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

Prerequisite. 6498, Lead a minimum of three flights as a designated Section Lead. Minimum of: 600 total hours, 200 rotary wing hours, and 50 hours in model.

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with appropriate LZ and thermally significant targets, if available

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. NSI+DL/PUI/CC/AO(AG)

Goal. OS - Tactically employ a division in a low to medium threat environment during the conduct of a day or night OAS, escort or assault support mission. Emphasize range regulations/ procedures, control of fires, power available/maneuvering considerations, objective area mechanics, flight member responsibilities, arm/penetration/de-arm procedures, division attacks and communication.

Requirements
Plan, brief, lead and debrief a day OAS, escort, or assault support mission
Develop a plan that supports the ground SOM and commander’s intent of the supported unit
Plan and brief division mechanics (objective area maneuver)
Plan and brief division threat reactions
Plan and brief rendezvous and join-up per ASTACSOP/NTTP and tactical situation
Brief penetration/de-penetration/offensive checklist procedures
Use all available planning tools to plan and brief route considerations, sensor acquisition, and target engagement
Conduct division take-off/landing, scatter plan/rendezvous, and lost communication procedures
Maneuver division using appropriate formations and signals
Conduct a rendezvous and join-up
Demonstrate applicable threat counter-tactics
Locate, plot and effectively engage target(s) with the appropriate assets (if applicable)
Direct attacks against target(s)
Control division during en route and objective area operations
Delegate tasks within flight and cockpit
Conduct the debrief, covering pertinent division specifics and learning points
Performance Standards

PUI shall brief IAW ASTACSOPT/NTTP.
PUI shall maintain situational awareness of wingmen and mutual support during en route portion of flight and in the objective area.
PUI shall effectively control the division throughout the flight.
PUI shall locate targets in a timely manner.
PUI shall engage target(s) using TTPs appropriate for the scenario.
PUI shall minimize threat exposure and use appropriate threat counter-tactics.
PUI shall use TRANSEC/COMSEC for all communications.
PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

Prerequisite: 8600, 6500, 6501

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with appropriate LZ

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. FLSE/PUI/CC/AO(AG)

2.17.9 Flight Leader (FL)

Purpose. To prepare and evaluate a prospective flight lead’s ability to plan, brief, lead and debrief a flight.

General. PUI shall conduct the following day/night sortie in order to develop and evaluate the prospective flight lead’s flight leadership. At the discretion of the commanding officer cross-cockpit instruction is authorized.

The IP will use the sortie requirement criterion to determine whether the PUI completed the sortie. The PUI will use the performance standards to debrief the flight. Completion of the Flight Leader syllabus meets the requirements for designation as Flight Leader. At the discretion of the squadron commanding officer, a letter designating the pilot as flight leader shall be placed in the NATOPS jacket and APR.

PUI shall have led three flights as a designated Division Leader. PUI shall also have a minimum of 750 total flight hours.

The flight lead event should be an OAS, escort or assault support Event.

PUI shall be evaluated on ordnance delivery utilizing Core Skill Plus ordnance accuracy standards, paragraph 2.16, and navigational accuracy metrics utilizing Core Plus/Mission Plus Skills navigational accuracy standards, paragraph 2.16.

Aircraft should be configured with an operable NTIS, crew served weapons, LTD/LRF, HMSD, VTR, APR-39, AAR-47, ALE-47 and IR Pointer (night events).

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

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<thead>
<tr>
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<th>*</th>
<th>B.R</th>
<th>(NS)</th>
<th>A</th>
<th>5+</th>
<th>1 UH-1Y &amp; 4+ H-1</th>
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</thead>
</table>

2-143
Goal. OS - Tactically employ a flight in a low to medium threat environment during the conduct of a day or night OAS, escort or assault support mission. Emphasize ASTACSOP, flight/element integration, routing, objective area mechanics, flight member responsibilities, attack patterns and communication.

Requirements

Plan, brief, lead and debrief a day OAS, escort, or assault support mission
Develop a plan that supports the ground SOM and commander’s intent of the supported unit
Plan and brief flight mechanics (objective area maneuver)
Plan and brief flight threat reactions
Plan and brief rendezvous and join-up per ASTACSOP/NTTP and tactical situation
Brief penetration/de-penetration/offensive checklist procedures
Use all available planning tools to plan and brief route considerations, sensor acquisition, and target engagement
Conduct flight take-off/landing, scatter plan/rendezvous, and lost communication procedures
Conduct a rendezvous and join-up
Demonstrate applicable threat counter-tactics
Locate, plot and effectively engage target(s) with the appropriate assets (if applicable)
Direct attacks against target(s)
Control flight during en route and objective area operations
Delegate tasks within flight and cockpit
Conduct the debrief, covering pertinent flight specifics and learning points

Performance Standards

PUI shall brief IAW ASTACSOP/NTTP.
PUI shall maintain situational awareness of wingmen and mutual support during en route portion of flight and in the objective area.
PUI shall effectively control the flight throughout the mission.
PUI shall locate targets in a timely manner.
PUI shall engage target(s) using TTPs appropriate for the scenario.
PUI shall minimize threat exposure and use appropriate threat counter-tactics.
PUI shall use TRANSEC/COMSEC for all communications.
PUI shall adhere to local course rules and comply with applicable range regulations.
PUI shall debrief lessons learned and accurately analyze effectiveness of TTPs.

Prerequisites. 6060, 6061, 8600, 6598, PUI shall have lead three flights as a designated Division Leader. PUI shall also have a minimum of 750 total flight hours.

Ordnance (Optional). (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

Range Requirement. Live fire LASER safe range with appropriate LZ and thermally significant tactical targets, if available

External Syllabus Support. One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)

Crew. FLSE/PUI/CC/AG

2.17.10 Air Mission Commander (AMC)

Purpose. To prepare and evaluate a prospective air mission commander’s ability to plan, brief, and command an air component of an assault support or OAS mission.

General. AMC is designated in recognition of experience, demonstrated flight leadership ability and judgment. Work-up for this phase shall consist of completion of the division leader syllabus. Completion of the AMC-6798 meets the requirements for the PUI to be designated an AMC. At the discretion of the squadron commanding officer, a letter designating the PUI as an AMC shall be placed in the NATOPS jacket, APR and AMC-6798 shall be
logged. Due to the limitations of M-SHARP, the AMC code is a “Ground Evaluated” event. Instructors will ensure that the appropriate AMC flight time will be logged on a NAVFLIR, if flown in the aircraft or simulator. However, the instructor shall ensure a Ground Event is logged with the AMC-6798 code.

**Crew Requirements.** The AMC-6798 evaluation must be evaluated by a an AMC. There is no requirement for the PUI to conduct aircrew duties during the evaluation.

**Ground/Academic Training.** The PUI shall demonstrate mastery of OAS, assault support operations, MACCS and MAGTF integration.

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<tr>
<th>AMC-6798</th>
<th>0.0</th>
<th>*</th>
<th>B.R</th>
<th>(NS)</th>
<th>GE</th>
<th>ANY TMS OR COC</th>
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</table>

**Goal.** OS - Conduct a day or night Air Mission Commander (AMC) check utilizing a MCTL-based mission and a tactical scenario.

**Requirements**

- Plan, brief, lead, and debrief a multi-element, multi-T/M/S tactical mission in any threat environment utilizing at a minimum, one assault element and one RW or FW escort element.
- The AMCUI shall be evaluated on his/her ability to integrate the six functions of Marine Aviation and shall lead the mission from an airborne platform or COC (as appropriate).

**Discuss**

- Problem framing and METT-TSL
- Marine Corps Planning Process (MCPP)/Rapid Response Planning Process (R2P2)
- COA development and task delegation
- Six functions of Marine Aviation
- Aviation Ground Support (AGS) capabilities
- MACCS agencies, functions, and employment
- Threat planning considerations for multiple T/M/S aircraft
- GCE support considerations
- Objective area planning considerations
- Fire Support Coordination Measures (FSCMs)
- Fire support/supporting arms considerations and integration (e.g. indirect fires, CAS)
- RW and FW escort considerations and escort tactics
- Assault support considerations and tactics
- Contingency planning
- Immediate tasking
- Go vs. No-Go criteria
- Event vs. time driven mission execution
- Chain of responsibility and delegation of authority
- C&C platform considerations and Mission Control Area (MCA) selection
- Secure vs. active communications
- EMCON and radio procedures
- Information flow requirements
- Execution checklist utilization

**Review**

- Tactical mission planning and briefing
- Command and control during a tactical mission

**Performance Standards**

- The AMCUI shall conduct problem framing IAW MCWP 5-1.
- The AMCUI shall delegate mission tasks to the most advantageous asset/flight, Ensure coordination and supervision of key personnel during planning.
- The AMCUI shall develop a plan that integrates the six functions of Marine Aviation and AGS.
- The AMCUI shall develop a plan that fully supports the GCE scheme of maneuver and Essential Fire Support Tasks (EFSTs).
- The AMCUI conduct an AMC brief IAW NTTP series publications.
- The AMCUI maintain SA on mission progress/execution.
- The AMCUI maximize C&C platform capabilities.
The AMCUI demonstrate proper decision making and task delegation in response to immediate missions and/or contingencies. The AMCUI demonstrate proper understanding and utilization of C4I to facilitate information flow and execution, RW and/or FW escort, secure and active communications, FSCM utilization and supporting arms, and contingency planning and execution. The AMCUI possess the Tactical and operational knowledge required of an AMC.

**Prerequisites.** 6070, 6071, 6072, 6598

**Ordnance (Optional).** (7) 2.75 inch rockets, two crew-served weapons [(600) .50 Cal GAU-21 per side, (1500) 7.62mm GAU-17 per side, or (600) 7.62mm M240 per side], (60) chaff/flares

**Range Requirement.** Live fire LASER safe range, as required

**External Syllabus Support.** GCE, MACCS agencies, AGS assets, multiple T/M/S RW and/or FW assets as required, and any other support required based on the Tactical scenario (HST, threat emitter/simulator)

**Crew.** AMC+FLSE/PUI

**2.17.11 Specific Operations Tracking Codes (6900)**

**Purpose.** To provide a vehicle for Tracking Codes associated with specific operations. All codes will be logged (i.e. specialty weapons employment) in conjunction with the appropriately flown sortie.

**General.** Each pilot assigned to a squadron should complete at least one (1) of each applicable SOTC code during their first fleet tour.

**Crew Requirements.** As listed at the end of each Event.

**SOTC-6900**

<table>
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<tr>
<th>Goal</th>
<th>OS – Track proficiency in shooting the 2.75 inch Illumination rocket (M-257/M-278)</th>
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<tr>
<td>Requirement</td>
<td>Shoot one (1) 2.75 inch illumination rocket</td>
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<tr>
<td>Ordnance</td>
<td>(1) 2.75 inch illumination rocket</td>
</tr>
<tr>
<td>Crew</td>
<td>NSI/PUI/CC/AG</td>
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**SOTC-6901**

<table>
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<tr>
<th>Goal</th>
<th>OS – Track proficiency in shooting the 2.75 inch guided rocket (APKWS)</th>
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<tbody>
<tr>
<td>Requirement</td>
<td>Shoot one (1) 2.75 inch guided rocket</td>
</tr>
<tr>
<td>Ordnance</td>
<td>(1) 2.75 inch guided rocket</td>
</tr>
<tr>
<td>Crew</td>
<td>WTO(NSI)/PUI CC/AG</td>
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**SOTC-6902**

<table>
<thead>
<tr>
<th>Goal</th>
<th>OS – Track proficiency in shooting the 2.75 inch flechette rocket</th>
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</thead>
<tbody>
<tr>
<td>Requirement</td>
<td>Shoot one (1) 2.75 inch flechette rocket</td>
</tr>
<tr>
<td>Ordnance</td>
<td>(1) 2.75 inch flechette rocket</td>
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<td>Crew</td>
<td>WTO(NSI)/PUI CC/AG</td>
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**SOTC-6907**

<table>
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<tr>
<th>Goal</th>
<th>OS – Track proficiency in shooting the 2.75 inch illumination rocket &amp; 1 H-1</th>
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<tbody>
<tr>
<td>Requirement</td>
<td>Shoot one (1) 2.75 inch illumination rocket</td>
</tr>
<tr>
<td>Ordnance</td>
<td>(1) 2.75 inch illumination rocket</td>
</tr>
<tr>
<td>Crew</td>
<td>WTO(NSI)/PUI CC/AG</td>
</tr>
</tbody>
</table>
Goal. OS – Track Section Leader Brief and Lead Requirements

Requirement. Conduct Section Leader Brief and Lead

Ordnance. As required

Crew. UHC/PUI/CC/AG

SOTC-6998 * B D A 1 UH-1Y

Goal. OS – Day autorotation tracking code.

Requirement. Conduct one daytime autorotation.

Ordnance. As required

Crew. BIP/PUI or PQM/PQM

SOTC-6999 * B NS A 1 UH-1Y

Goal. OS – NS autorotation tracking code.

Requirement. Conduct one NS autorotation.

Ordnance. As required

Crew. BIP/PUI or PQM/PQM

2.18 MISSION ESSENTIAL TASK (MET) PHASE (7000)

Purpose. To assess CMMR representative crews during the execution of the unit’s specified METs in order to ensure standardization and combat readiness.

To fulfill the requirements of a Marine Corps Combat Readiness Evaluation (MCCRE) as specified in MCO 3501.1E, Marine Corps Combat Readiness Evaluation.

Prerequisite. Aircrew assessed during this phase shall meet the requirements of a Force Generation Order. The crews should be comprised of deploying personnel to the maximum extent practical.

Admin Notes. The proficiency period for conducting elements of the 7000 phase are:

No less than once every 2 years for active components
No less than once every 5 years for reserve components

Units not scheduled to be assessed at a service level training venue (i.e. ITX, MTNEX, TALONEX) shall conduct elements of the 7000 level phase as a minimum requirement for a unit to deploy.

The MAW Flight Leadership Standardization and Evaluation (FLSE) cadre is the resource used to assess Type/ Model/ Series units for MET capability in accordance with the MCCRE Order. The units assessor will be designated at the Wing level of the unit to be assessed.

Events in this Phase normally require a Force Generation Order prior to commencing the 7000 Stage. Once a unit deploys, is removed from the Force Generation Order, or completes the required 7000-Stage, 7000 Phase currency no longer needs to be maintained. Multiple Events may be accomplished during the same sortie. Results of the MCCRE assessment shall be formatted per Appendix D, 3500.14E and submitted to CG, MCCDC (via AMHS message attachment to CG TECOM MTESD) no later than 45 days after MCCRE completion.

Due to an HMLA’s unique composition and multiple T/M/S within a squadron, common METs may be marked as T&R complete regardless of the composition of the element that is evaluated. For example, if a section
of AH-1s are evaluated conducting CAS, the MET-7002 code may be logged for both the AH-1 and UH-1 in MSHARP and reported as complete for the squadron.

**Stages.** The following stages are included in the Mission Essential Task (MET) Phase of training. **Only METs required per the Force Generation Order shall be evaluated.**

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<tr>
<td>EXPEDITIONARY SEA-BASED OPERATIONS (SEA)</td>
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2.18.1 **Mission Essential Task (MET) Stage**

**Purpose.** To assess squadrons or detachments executing community specific MET(s) or MET preparatory Events.

**General**

**Prerequisite.** If an event requires prerequisites in addition to those listed for the MET Phase, they will be covered in the individual event.

**Crew Requirements.** The participants required for the 7000 Phase are the evaluated unit and the assessor. The crew requirement is based on the specific event. The assessment shall be conducted from a crew position of the assessor’s T/M/S. At the discretion of the assessor, observation of mission planning, briefing/debriefing, and execution from an OP may satisfy a portion of the assessment.

Respectively, the primary, alternate, and tertiary assessors shall be a MATSS representative, WTI (FLSE) from within the parent command designated by the owning Wing, or MAWTS-1 representative. The number of crews evaluated will be based on a percentage required to deploy per the Force Generation Order.

**MET-7001** 1.5 730 B,R,M (NS) A/S 2 1 UH-1Y & 1 H-1

**Goal.** Demonstrate the capability to conduct combat assault transport operations in a low to medium threat environment.

**Performance Standard.** Plan, brief and execute a tactical assault support mission (general support, NEO, resupply, insert, extract, raid) per MCT 1.3.4.1 and the T/M/S specific T&R. If an L-Hour is utilized arrive in the LZ +/- 30 sec within 50m of intended landing point.

**Instructor:** MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

**Prerequisites.** IAW Phase.

**Ordnance.** IAW Phase.

**Range Requirement.** Live fire and expendable range as required.

**External Syllabus Support.** Command and Control system if available. Escort and/or Command and Control aircraft are preferred, if available. Ground Combat Element preferred if available.

**MET-7002** 1.5 730 B,R,M (NS) A/S 2 H-1

**Goal.** Demonstrate the ability to conduct close air support in a low to medium threat environment.
Performance Standard. Plan, brief and execute a close air support mission per MCT 3.2.3.1.1 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range as applicable.

External Syllabus Support. JTAC/TACP is preferred, but may be simulated if necessary.

MET-7003 1.5 730 B,R,M (NS) A/S 2 H-1

Goal. Demonstrate the capability to conduct strike coordination and reconnaissance in a low to medium threat environment.

Performance Standard. Plan, brief and execute a tactical strike coordination and reconnaissance evolution per MCT 3.2.3.1.2.3 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range as required.

External Syllabus Support. External AR platforms preferred but may be simulated if required.

MET-7005 1.5 730 B,R,M (NS) A/S 2 H-1

Goal. Demonstrate the capability to operate as a forward air controller (airborne) in a low to medium threat environment.

Performance Standard. Plan, brief and execute a tactical FAC/A evolution per MCT 3.2.5.4 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range as required.

External Syllabus Support. Requirements per FACA-3404.

MET-7006 1.5 730 B,R,M (NS) A/S 2 H-1

Goal. Demonstrate the ability to conduct Tactical Recovery of Aircraft and Personnel (TRAP) in a low to medium threat environment.


Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire and expendable range as required

External Syllabus Support. Assault and/or Command and Control aircraft are preferred if available. Isolated personnel in the objective area is preferred. Use of survival radios is preferred. Ground combat element is preferred if available.

MET-7007 1.5 730 B,R,M (NS) A/S 2 H-1
Goal: Demonstrate the capability to conduct aerial escort in a low to medium threat environment.

**Performance Standard:** Plan, brief and execute an aerial escort evolution per MCT 6.1.1.11 and the T/M/S specific T&R.

**Instructor:** MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

**Prerequisites:** IAW Phase

**Ordnance:** IAW Phase

**Range Requirement:** Live fire range as required.

**External Syllabus Support:** Actual assault transport element consisting of at least one aircraft.

**MET-7008**

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**Goal:** Demonstrate the ability to conduct an air evacuation operation in a low to medium threat environment.

**Performance Standard:** Plan, brief and execute a tactical air evacuation mission per MCT 6.2.2 and the T/M/S specific T&R.

**Instructor:** MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

**Prerequisites:** IAW Phase

**Ordnance:** IAW Phase

**Range Requirement:** Live fire and expendable range as required.

**External Syllabus Support:** Ground Combat Element and/or Logistics Combat Element is preferred if available

**MET-7009**

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**Goal:** Demonstrate the capability to conduct operations from expeditionary sea-based sites in a low to medium threat environment.

**Performance Standard:** Plan, brief and execute any evolution from an expeditionary sea-based site per MCT 1.3.3.3.1 and the T/M/S specific T&R.

**Instructor:** MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

**Prerequisites:** IAW Phase

**Ordnance:** IAW Phase

**Range Requirement:** Live fire range as required.

**External Syllabus Support:** Naval shipping platform capable of conducting helicopter operations.

**MET-7010**

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**Goal:** Demonstrate the capability to airborne rapid insert/extract missions in a low to medium threat environment.

**Performance Standard:** Plan, brief and execute an airborne RIE evolution per MCT 1.3.4.1.1 and the T/M/S specific T&R.

**Instructor:** MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

**Prerequisites:** IAW Phase

**Ordnance:** IAW Phase

**Range Requirement:** Live fire range as required.

**External Syllabus Support:** HRST/Jump/Cast Master as required. Live passengers preferred but may be simulated.

**MET-7011**

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**Goal:** Demonstrate the ability to conduct air delivery in a low to medium threat environment.
Performance Standard. Plan, brief and execute a tactical aerial delivery mission per MCT 4.3.4 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range/approved drop zone as required

External Syllabus Support. HST, as required. Jump Master and ground safety personnel, as required

**MET-7012** 1.5 730 B,R,M (NS) A/S 1 UH-1Y

Goal. Demonstrate the capability to provide an airborne platform for command and control in a low to medium threat environment.

Performance Standard. Plan, brief and execute an airborne CC evolution per MCT 5.3.2.7.4 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range as required.

External Syllabus Support. IAW Phase.

**MET-7013** 1.5 730 B,R,M (NS) A/S 1 UH-1Y

Goal. Demonstrate the capability to act as tactical air controller (airborne) in a low to medium threat environment.

Performance Standard. Plan, brief and execute a TAC(A) evolution per MCT 5.3.2.7.3 and the T/M/S specific T&R.

Instructor: MATSS representative, WTI (FLSE) designated by Wing, or MAWTS-1 representative

Prerequisites. IAW Phase

Ordnance. IAW Phase

Range Requirement. Live fire range as required.

External Syllabus Support. Per TACA-4500.

### 2.19 AVIATION CAREER PROGRESSION MODEL (8000)

**Purpose.** To enhance professional understanding of Marine Aviation and the MAGTF and to ensure aviators possess the requisite skills to fill battle command and battle staff positions in support of the ACE and the MAGTF in a joint environment. ACPM academic training requirements will be tracked and managed in M-SHARP. Commanding officers shall ensure the requisite ACPM training requirements have been met prior to designating flight leaders.

**General.** ACPM courseware is integrated into each Phase of instruction from 2000-6000. All ACPM courseware shall be completed prior to getting the culminating qualification for each phase.

- 8200 academics must be complete prior to PQM.
- 8300 academics must be complete prior to UHC.
- 8600 academics must be complete prior to each corresponding flight leadership stage.

The ACPM courseware can be found on MCALMS at: https://mcalms.usmc.mil

ACPM academic events, along with their identifying prerequisite association with other training phases/stages/events are listed below.
At the completion of each ACPM Event, the appropriate training code shall be logged in M-SHARP by the individual pilot, or squadron operations personnel, as appropriate.

ACPM Events do not have re-fly intervals.

2.19.1 ACPM Core Skill Training Phase

**Purpose.** To provide and introduce basic integration of the ACE within the MAGTF and ACE Battle Staff planning.

**General.** The PUI must be complete the ACPM-8200 series prior to PQM designation.

2.19.2 ACPM Mission Skill Training Events

**Purpose.** To provide and introduce basic integration of the ACE within the MAGTF and Joint environment.

**General.** The PUI must be complete the ACPM-8300 series prior to UHC designation.

2.19.3 ACPM Flight Leadership Training Events

**Purpose.** To provide the prospective flight leader the concepts of basic integration of the MAGTF within the Joint environment.

**General.** The PUI must be complete the ACPM-8600 series prior to SL designation.

2.20 SYLLABUS EVALUATION FORMS. M-SHARP will upload E-ATF gradable items to use for pilot training jackets.

2.21 SYLLABUS MATRICES GENERAL INFORMATION

2.21.1 T&R Chaining

Event chaining allows for the completion of more complex and/or advanced events using the same skills to update proficiency status of events.

Only events in a sequence entailing demonstration of equivalent skills shall be chained.

When a T&R event is logged, the proficiency dates of other T&R events (usually lower in number) may be updated.

The T&R code that is logged is known as the “chaining code,” and the updated codes are “chained codes.”

**Conditional Chaining.** The following environmental conditions further specify which T&R codes are chain-updated:

- **Night Systems Optional.** Chained codes annotated with a tilde after them, e.g. 2101~NS, are only chain-updated if the chaining code is flown using night systems.
- **Light Level Optional.** Chained codes annotated with a tilde and a ‘NS’ after them, e.g. 2101~NS, are only chain-updated if the chaining code is flown using night systems during HLL. Chained codes annotated with a tilde and a ‘LLL’ after them, e.g. 2404~LLL, are only chain-updated if the chaining code is flown using night systems during LLL.
2.21.2 Syllabus Event Conversion. The syllabus event conversion information is used to convert T&R syllabus event proficiency status of the previous T&R syllabus into event proficiency status of the current T&R for individuals.
### UH-IY T&R SYLLABUS MATRIX (1000 & 5000 PHASE)

#### UH-IY PILOT T&R MATRIX CORE SKILL INTRODUCTION (1000 & 5000 PHASE)

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**FORM TOTAL**

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| 1000 TERF | TERF | Intro TERF | 1400 X | 2.0 D OS A 1 | * 1503,1800,1301~SEC | 1400 |
| TERF | Intro NVD TERF | 1401 X | 2.0 NS OS A 2 | * 1118,1302,1400,1301~SEC | 1401 |

**TERF TOTAL**

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| 1000 NAV | NAV | Intro DMS NAV | 1500 X X X X | (N) OS S 1 | 485 1102 | 1500 |
| NAV | Intro FLIR | 1501 X X | (N) OS S 1 | * | 1500 | 1501 |
| SNAV | Intro NAV | 1502 X X X | 1.5 | D OS S 1 X | 730 1112,1500,1501 | 1502 |
| NAV | Rev NAV | 1503 X X | 2.0 D OS A 1 | 730 1113,1502 | 1503 |
| NAV | Intro NVD NAV | 1504 X | 2.0 NS OS A 1 | * 1118,1302,1503 | 1504 |

**NAV TOTAL**

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| 1000 SWD | SSWD | Intro SSWD | 1600 X X X X | 1.5 | D OS S 1 X | 485 1001,1115 | 1600 |
| SWD | Intro CSW | 1601 X | 1.5 D OS A 1 | * 1300,1600 | 1601 |
| SWD | Intro Rockets | 1602 X X X | 1.5 D OS A 1 | 730 1601 | 1602 |

**SWD TOTAL**

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| 1000 TCT | STCT | Intro ASE,APKWS | 1700 X X X X | 1.0 | D OS S 1 X | 485 1001,1115 | 1700 |
| TCT | Rev NTIS | 1701 X | 2.0 D OS A 1 | * 1700 | New |

**TCT TOTAL**

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| 1000 ASPT | ASPT | Intro CAT | 1800 X | 1.5 D OS A 1 | * 1113 | 1800 |
| ASPT | Rev CAT | 1801 X X X | 1.5 D OS A 1 | 730 1800 | 1801 |
| ASPT | Intro NVD CAT | 1802 X X X X | 1.5 NS OS A 1 | 485 1118,1801 | 1802 |

**ASPT TOTAL**

| 0 | 0.0 | 0 | 0.0 | 3 | 4.5 |

| 1000 CSIX | SCSIX | NATOPS Eval | 1900 X X X X | 1.5 | D OS S 1 X | 485 6002,6003,All Previous Core Skill Intro Events | 1900 |
| CSIX | Core Intro Eval | 1901 X X X X | 2.0 D OS A 2 | 485 1204,1900 | 1901 |

**CSIX TOTAL**

| 0 | 0.0 | 1 | 1.5 | 1 | 2.0 |

**CORE SKILL INTRODUCTION PHASE TOTAL**

| 3 | 3.0 | 15 | 22.0 | 27 | 47.0 |
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2-158
## UH-1Y Pilot T&R Syllabus Matrix (2000-8000 Phases)

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**ACAD Skill Total:** 25, 40.0, 0, 0.0, 0, 0.0

## Escort (ESC)

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**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

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**ACAD SKILL TOTAL**: 13.0

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**CAT SKILL TOTAL**: 0.0

2-162
## UH-1Y Pilot T&R Syllabus Matrix (2000-8000 Phases)

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#### ACADEMICS (ACAD)

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  - Intro to Training and Readiness: ACAD 5001
  - Coach or Umpire: ACAD 5002
  - Student Trends: ACAD 5003
  - Briefing/Debriefing: ACAD 5004
  - How to Write ATF: ACAD 5005
  - Instructional STAN: ACAD 5006
  - How to Give Quality X: ACAD 5007
  - How to Build Scenario: ACAD 5008
  - FAC(A)I Presentation: ACAD 5040
  - FAC(A)I Chalk Talk: ACAD 5041
  - FRSII Course: ACAD 5060
  - FAM Stan Lecture: ACAD 5061
  - Inst Stan Lecture: ACAD 5062
  - Form Stan Lecture: ACAD 5063
  - TERF Stan Lecture: ACAD 5064
  - Nav Stan Lecture: ACAD 5065
  - SWD Stan Lecture: ACAD 5066
  - DACM RW Presentation: ACAD 5080
  - DACM RW Presentation: ACAD 5081
  - NSI Presentation: ACAD 5090

**ACAD SKILL TOTAL**

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- **0.0**
- **0.0**

#### BASIC INSTRUCTOR PILOT (BIP)

- **BIP**
- **SBIP**
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  - (S) INST/CQ Review: SBIP 5101
  - (S) Instruct CAL,RVL,RIE: SBIP 5102
- **BIP**
  - Inst Cal RVL,RIE: BIP 5103

**BIP SKILL TOTAL**

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- **4.5**
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#### TERRAIN FLIGHT / NAVIGATION INSTRUCTOR (TERFI)

- **TERFI**
- **TERFI**
  - TERFI NAV: TERFI 5110

**TERFI SKILL TOTAL**

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| WTO SKILL TOTAL | 0 | 0.0 | 3 | 4.5 | 2 | 3.0 |

| CSI  | SCSI | (S) Stan Eval | 5300 | X | X | 1.5 | D | OS | S | X | 365 | 5300 |

| CSI SKILL TOTAL | 0 | 0.0 | 1 | 1.5 | 0 | 0.0 |

| FAC(A)I | SFAC(A) | (S) FAC(A) IUT | 5400 | X | | 1.5 | (NS) | OS | S/A | 2 | X | 2 | * 5405,5905 | 5400 |
| FAC(A)I | FAC(A) UUT | 5401 | X | | 1.5 | (NS) | OS | A | 2 | * 5400 | 5401 |
| FAC(A)I | FAC(A) Check | 5402 | X | X | 1.5 | (NS) | OS | A | 2 | * 5401,5040,5041 | 5402 |

| FAC(A)I SKILL TOTAL | 0 | 0.0 | 1 | 1.5 | 2 | 3.0 |

| TAC(A)I | TAC(A) Check | 5700 | X | X | | 2.0 | (NS) | OS | A | 1 | * 5405,4500 | 4500 |

| TAC(A)I SKILL TOTAL | 0 | 0.0 | 0 | 0.0 | 1 | 2.0 |

| DACM(D) | 1x2/2x1 RW IUT | 5801 | X | | 2.0 | D | OS | A | 2 | * RWDACM Q,WTO | 5801 |
| DACM(D) | 1x2/2x1 FW IUT | 5801 | X | | 2.0 | D | OS | A | 2 | * RWDACM Q, WTO | 5801 |
| DACM(D) | RW IUT Check | 5802 | X | X | | 2.0 | D | OS | A | 2 | * RWDACM Q, WTO,4303,5204,5800,5080, 5803 |
| DACM(D) | RW IUT Check | 5803 | X | X | | 2.0 | D | OS | A | 2 | * RWDACM Q, WTO,4305,5204,5801,5081, certifica 5803 |

| DACM(D) SKILL TOTAL | 0 | 0.0 | 0 | 0.0 | 4 | 8.0 |

| NSI  | SNSI | (S) NVD Instructorship | 5900 | X | | 1.5 | NS | OS | S/A | 1 | X | * 5204,5090 | 2101,2502,2801 | 5901 |
| NSI  | NSI FACM/CAT | 5901 | X | | 2.0 | NS | OS | A | 1 | * 5900 | 2201,2801,2301 | 5900 |
| NSI  | NSI SWD/CAT | 5902 | X | | 2.0 | NS | OS | A | 2 | * 5901 | 2201,2301,2404 | 5902 |
| NSI  | (S) NSI OAS/CAT STAN | 5903 | X | X | | 1.5 | NS | OS | S/A | 1 | X | * 5902 | 2201,2301,2404 | 5904 |
| NSI  | NSI OAS/CAT | 5904 | X | | 2.0 | NS | OS | A | 2 | * 5903 | 2201,2301,2404 | 5903 |
| NSI  | NSI Evaluation | 5905 | X | X | | 2.0 | NS | OS | A | 2 | * 5904 | 2201,2301,2404 | 5905 |

| NSI SKILL TOTAL | 0 | 0.0 | 2 | 3.0 | 4 | 8.0 |
### UH-1Y Pilot T&R Syllabus Matrix (2000-8000 Phases)

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**SL SKILL TOTAL**

**DL SKILL TOTAL**

**FL SKILL TOTAL**

**AMC SKILL TOTAL**

**SECTION LEADER (SL)**

**DIVISION LEADER (DL)**

**FLIGHT LEADER (FL)**

**AIR MISSION COMMANDER (AMC)**

**NAVMC 3500.20D**

24 Nov 21

2-168
## UH-1Y Pilot T&R Syllabus Matrix (2000-8000 Phases)

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### UH-1Y PILOT RANGE & ORDNANCE MATRIX (1000 & 5000 PHASE)

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* Authorized TERF Area
* Live fire LASER safe range (raked/scored range if available)
### UH-1Y PILOT RANGE & ORDNANCE MATRIX (2000-8000 PHASES)

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# UH-1Y Pilot Range & Ordnance Matrix (2000-8000 Phases)

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<th>Cond</th>
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<th>External Syllabus Notes</th>
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## Expeditionary Shore-Based Site Operations (EXP)

<p>| EXP | Day FARP | 2902 | X | D | OS | A | 1 | ~* | Actual or simulated FARP |
| EXP | NS FARP  | 2903 | X | X | NS | A/S | 1 | 180 | Actual or simulated FARP |</p>
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<td>~AC Live fire and LASER safe range</td>
<td>Device operator. ~AC one or more assault support aircraft</td>
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<td>FW or RW aircraft~AC</td>
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**UH-1Y PILOT RANGE & ORDNANCE MATRIX (2000-8000 PHASES)**

**RANGE NOTES**

- 365: Optional range.

**EXTERNAL SYLLABUS NOTES**

- TACP: TACP
- JTAC: JTAC
- FW: FW
- RW: RW
- ~AC: ~AC
## UH-1Y PILOT RANGE & ORDNANCE MATRIX (2000-8000 PHASES)

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## TACTICAL RECOVERY OF AIRCRAFT AND PERSONNEL (TRAP)

<p>| TRAP | TRAP | TRAP | X X X | 1.5 | (NS) | OS | A/S | 2 | 365 | | (7) | 2.75 inch rockets, (600) | .50 Cal GAU-21, (3000) | 7.62mm GAU-17, or (600) | 7.62mm M240 per side, (60) chaff/flares | Optional | Live fire LASER safe range with thermally significant tactical targets | | | One or more assault aircraft required |</p>
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<td>Jump Master and two jumpers (jump master may be one of the jumpers)</td>
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<td>730</td>
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<td>Operational DASC or TACC with supporting Tactical Air Traffic Control (TATC) and Tactical Air Direction (TAD) nets, minimum two terminal controllers, minimum of two CAS sections, indirect fire support assets (artillery, mortars, or Naval Surface Fire Support (NSFS))</td>
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<td>Air-to-air training area suitable for expendables, TACTS range, if available</td>
<td>One rotary wing aggressor</td>
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FLIGHT LEADERSHIP STANDARDIZATION EVALUATOR (FLSE)

| FLSE FLESE Evaluation | 5920 | X X | 2.0 | (NS) OS A | 2+ |
| FLSE Annual Training | 5921 | X X | 2.0 | (N) G | 365 |

DESIGNATION (DESG)

| DESG DESG UHC EVAL | 6398 | X X X | 1.5 | (NS) OS A | 2* | Live fire LASER safe range with appropriate LZ and thermally significant tactical targets, if available |

TACP and MACCS (live or notional)
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<td>Optional. 2/3 EVENTS REQUIRE ORDNANCE</td>
<td>Live fire LASER safe range with appropriate LZ and thermally significant tactical targets, if available</td>
<td>One or more assault support aircraft (if escort mission) and embarked troops (if available, for assault support mission)</td>
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<td>Optional. 2/3 EVENTS REQUIRE ORDNANCE</td>
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CHAPTER 3
UH-1Y CREW CHIEF

3.0 CREWMEMBER SYLLABUS T&R REQUIREMENTS. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit warfighting capabilities.

3.1 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the minimum to maximum time per phase for the UH-1Y crewmember. Units should use the model as a guide to generate individual training plans.

<table>
<thead>
<tr>
<th>UH-1Y CREW CHIEF TRAINING PROGRESSION MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG Qualifications (6000)</td>
</tr>
<tr>
<td>GAU-17/A, M240D, GAU-21</td>
</tr>
<tr>
<td>Core Plus/Mission Plus (4000)</td>
</tr>
<tr>
<td>RIE  CBRN  CAS  CQ  AAD / DACMQ</td>
</tr>
<tr>
<td>Mission (3000)</td>
</tr>
<tr>
<td>ESC  CAT  AD  CAS  FAC(A)</td>
</tr>
<tr>
<td>Core (2000)</td>
</tr>
<tr>
<td>TERF  REC  CAT  SWD</td>
</tr>
<tr>
<td>Terf  NSQ  HLL  NSQ  LLL</td>
</tr>
<tr>
<td>Instructor Qualifications (5000)</td>
</tr>
<tr>
<td>TERFI, AGI, NSI, DACMI, WTI</td>
</tr>
<tr>
<td>Core  Instru  (1000)</td>
</tr>
<tr>
<td>3  6  9  12  15  18  21  24  27  30  33  36  39  42  45  48</td>
</tr>
<tr>
<td>Months to Train (Min to Max)</td>
</tr>
</tbody>
</table>

3.2 PROGRAMS OF INSTRUCTION (POI). In accordance with POI updating rules, in order for all events in a stage to be updated once the R coded events for the stage have been flown, there has to be a previously flown date present, either proficient or delinquent, otherwise the event will be recognized as incomplete and must be flown. Therefore, all refresher and series conversion aircrew shall ensure previously flown events are logged, based on the last date flown. If the flight was flown under a previous T&R (UH-1Y or UH-1N), reference the UH-1Y Syllabus Matrix at the end of the Chapter to ensure events are converted correctly. Enlisted Aircrew Training Managers (EATM) shall ensure enlisted aircrew are placed in the appropriate syllabus (B, R, SC) in MSHARP, in order to ensure MSHARP functions properly.

3.2.1 Basic/Transition (B/T) POI. The Transition POI mirrors the Basic POI. Basic and Transition enlisted aircrew are required to fly the entire syllabus.

<table>
<thead>
<tr>
<th>BASIC POI</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEKS</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3-8</td>
</tr>
<tr>
<td>9-14</td>
</tr>
</tbody>
</table>
3.2.2 Series Conversion (SC) POI. The Series Conversion syllabus is provided for personnel proficient in the UH-1N converting directly to the UH-1Y. After performing event conversion in accordance with (T&R Syllabus Matrix), previously designated UH-1N aircrew in the Series Conversion syllabus shall fly all “SC” coded events if the crewmember is proficient in the UH-1N. The Series Conversion syllabus is predicated on the experience of the Series Conversion aircrew and is primarily designed for aircrews that are not out of the UH-1N for longer than 485 days and is beginning the series conversion within days of the last UH-1N flight. Aircrew that fall outside this date window shall comply with the Refresher POI syllabus. The commanding officer may tailor the Series Conversion syllabus to fit the experience, and proficiency, of the Series Conversion aircrew per T&R Program Manual. All UH-1N aircrew qualified and proficient LLL that are undergoing a Series Conversion syllabus may fly all “NS” and “(NS)” flights under HLL or LLL conditions. M-SHARP will not automatically convert UH-1N events for proficiency in the UH-1Y. The training officer will have to manually enter these dates, for each aircrew, before commencing training in the Series Conversion POI.

Upon completion of SWD-2609, SWD-2610, LLL-2405 and CAT-3203 events for the Series Conversion syllabus, the crewmember may be re-designated/qualified NSQ LLL, AG GAU-17/A, AG M240D, TERFI, AGI GAU-17/A, AGI M240D, NSI, and WTI (if previously held in the UH-1N) as appropriate by the squadron commanding officer. CQ and DACM events are not required to be completed prior to regaining the above qualifications/designations in the series conversion syllabus.

Upon completion of DACM-4301 events for the Series Conversion syllabus, the crewmember may be re-designated/qualified RWDACM, FWDACM and DACMI (if previously held in the UH-1N) as appropriate by the squadron commanding officer.

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UH-1Y Familiarization</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>2</td>
<td>Ground School</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>3-8</td>
<td>Core Introduction Training</td>
<td>USMC UH-1Y FRS</td>
</tr>
<tr>
<td>9-14</td>
<td>Core/Mission Skill Training</td>
<td>Tactical Squadron</td>
</tr>
</tbody>
</table>

3.2.3 Refresher (R) POI. A Refresher syllabus is provided for personnel returning to an operational squadron who have previously completed the UH-1Y Basic or Series Conversion POI. Experienced aircrew (completed at least one fleet tour in an operational unit) returning to a squadron, who have not flown in an UH-1Y for more than 485 days shall be placed in the Refresher POI.

The Refresher syllabus is predicated on the experience of the Refresher aircrew. Aircrew in the Refresher syllabus should fly all “R” coded events; however, aircrew need not fly every event within a stage of training to be re-qualified in that stage. The commanding officer may tailor the Refresher syllabus to fit the experience of the Refresher aircrew per the T&R Program Manual. This assumes that the Refresher has had previous proficiency in that stage of training. If the aircrew has no previous proficiency in a stage or particular event, then the aircrew should fly the entire stage or all events not previously flown. The Refresher syllabus applies only up to the stage achieved during the prior tour. After completion of appropriate Refresher syllabus, the aircrew will complete the entire remaining syllabus. Prerequisites apply only to replacement aircrew and not to Refresher aircrew.

Previously designated UH-1N aircrew shall complete all R coded events that are delinquent or incomplete and any other (non R coded) events that are also incomplete. Incomplete events will either be new events with no direct comparison to a UH-1N event or an event with no proficiency date because the aircrew never performed it in the UH-1N. M-SHARP will not automatically convert UH-1N T&R syllabus codes for proficiency in the UH-1Y. The Enlisted Aircrew Training Manager will have to manually enter these dates for each CC/AO before commencing Core Skill training in the Refresher POI at the tactical unit. At the discretion of the commanding officer, aircrew under the Refresher POI who were previously ANSQ (NSQ-LLL) qualified may conduct NS or (NS) Refresher syllabus events under HLL or LLL conditions.
3.2.4 MAWTS-1 Level Instructor POI

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>COURSE</th>
<th>PERFORMING ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Night Systems Instructor</td>
<td>MAWTS-1</td>
</tr>
<tr>
<td>24</td>
<td>Defensive Aerial Combat Maneuvering Instructor</td>
<td>MAWTS-1</td>
</tr>
</tbody>
</table>

3.3 PROFICIENCY & CURRENCY

3.3.1 Event Proficiency. Event proficiency is defined as successful completion of the performance standard as determined by the instructor or evaluator. Event completion is predicated upon demonstrated proficiency. Once completed, it is logged in M-SHARP by entering the appropriate event code. M-SHARP automatically updates the event proficiency date to reflect the completion date.

3.3.2 Skill Proficiency. Management of individual proficiency serves as the foundation for developing proficiency requirements in DRRS-MC. Proficiency is attained by individual Phase where the training events for each skill are determined by POI assignment. Proficiency is a measure of achievement of a specific skill. To attain Individual Skill proficiency, an individual must be simultaneously proficient in all events for that Skill. Individuals may be attaining proficiency in some skills while maintaining proficiency in others.

Maintaining Skill Proficiency. Once attained, skill proficiency is maintained by executing those events which have a Proficiency Period (Maintain events). Proficiency Periods establish the maximum time between event demonstration. Should proficiency be lost in any maintain event, for a specific skill, that skill proficiency is temporarily lost. Skill proficiency can be re-attained by again demonstrating proficiency in the Event(s) that are not proficient. For flying communities, an individual shall complete delinquent events with a proficient instructor.

Loss of Individual Skill Proficiency. Should an individual lose proficiency in all maintain events in a skill, the individual will be assigned to the Refresher POI for the skill. To regain skill proficiency, the individual must demonstrate proficiency in all R-coded events for the skill.

Loss of Unit Skill Proficiency. If an entire unit loses proficiency in an Event, unit instructors shall regain proficiency by completing the Event with an instructor from a like unit. If not feasible, the instructor shall regain proficiency by completing the Event with another instructor. If a unit has only one instructor and cannot complete the event with an instructor from another unit, the instructor shall regain proficiency with the next highest qualified crew chief available or as designated by the commanding officer.

Proficiency Status. Proficiency is a “Yes/No” status by skill assigned to an individual. When an individual attains and maintains Core Skill Proficiency (CSP), Mission Skill Proficiency (MSP), Core Plus Skill Proficiency (CPSP), or Mission Plus Skill Proficiency (MPSP), the individual may count towards CMMR or CMTS.

3.3.3 Currency. Currency is a control measure used to provide an additional margin of safety based on exposure frequency to a particular skill. It is a measure of time since the last event demanding that specific skill.

3.4 REQUIREMENTS, QUALIFICATION AND DESIGNATION TABLES. The tables below delineate T&R events required to be completed to attain proficiency, and initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing final events. Qualification and designation letters shall be signed by the commanding officer and placed in the individual’s NATOPS jacket. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.
### UH-1Y CREW CHIEF QUALIFICATIONS AND DESIGNATIONS

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Event Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATOPS</td>
<td>6101, IAW CNAF M-3710.7 and an annual qualification letter signed by the commanding officer.</td>
</tr>
<tr>
<td>TERF</td>
<td>2100.2101</td>
</tr>
<tr>
<td>NSQ-HLL</td>
<td>TERFQ.2300,2400,2401,2402,2403</td>
</tr>
<tr>
<td>NSQ-LLL</td>
<td>NSQ-HLL, 2102,2404,2405</td>
</tr>
<tr>
<td>CQ</td>
<td>4601.4603</td>
</tr>
<tr>
<td>NVDCQ</td>
<td>4601.4602,4603,4604</td>
</tr>
<tr>
<td>UNAIDED CQ</td>
<td>4601.4602,4603,4605</td>
</tr>
<tr>
<td>RW DACM</td>
<td>TERFQ.4301,4302</td>
</tr>
<tr>
<td>FW DACM</td>
<td>TERFQ.4304,4305</td>
</tr>
<tr>
<td>AG GAU-17/A</td>
<td>NSQ LLL,2601,2605,2609,3100,3101,3103,3200,3203,3301,6301</td>
</tr>
<tr>
<td>AG M240D</td>
<td>NSQ LLL,2602,2606,2610,3100,3101,3103,3200,3203,3301,6302</td>
</tr>
<tr>
<td>AG GAU-21</td>
<td>NSQ LLL,2603,2607,2611,3100,3101,3103,3200,3203,3301,6303</td>
</tr>
</tbody>
</table>

### Designation Event Requirements

<table>
<thead>
<tr>
<th>Designation</th>
<th>Event Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>CIX-1901</td>
</tr>
<tr>
<td>FRSI</td>
<td>AGI GAU-17/A, AGI M240D, AGI GAU-21, 5300, 5301</td>
</tr>
<tr>
<td>TERFI</td>
<td>IAW the MAWTS-1 Course Catalogs. Designations for TERFI and AGI are signed by the unit commanding officer. DACMI, NSI, and WTI designations are signed by the MAWTS-1 Commanding Officer and forwarded to squadron commanding officers. Squadron commanding officers should designate crew chiefs who satisfactorily complete the evaluation flight(s) and have an EATF filed in the APR. FRS commanding officers should designate NSFIs as appropriate per the MAWTS-1 Course Catalog.</td>
</tr>
<tr>
<td>AGI GAU-17/A</td>
<td>Commanding Officer and forwarded to squadron commanding officers.</td>
</tr>
<tr>
<td>AGI M240D</td>
<td>AGI GAU-21 Commanding Officer</td>
</tr>
<tr>
<td>AGI GAU-21</td>
<td>RW DACMI an EATF filed in the APR.</td>
</tr>
<tr>
<td>FW DACMI</td>
<td>MAWTS-1 Course Catalog.</td>
</tr>
<tr>
<td>NSFI</td>
<td></td>
</tr>
<tr>
<td>NSI</td>
<td></td>
</tr>
<tr>
<td>WTI</td>
<td></td>
</tr>
<tr>
<td>ANI</td>
<td>6101 given by a NATOPS Instructor</td>
</tr>
<tr>
<td>NI</td>
<td>6101 given by a NATOPS Evaluator</td>
</tr>
<tr>
<td>CRMF</td>
<td>6103</td>
</tr>
<tr>
<td>CRMI</td>
<td>6104</td>
</tr>
</tbody>
</table>

### UH-1Y AERIAL OBSERVER QUALIFICATIONS AND DESIGNATIONS

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Event Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATOPS</td>
<td>6101, IAW CNAF M-3710.7 and an annual qualification letter signed by the commanding officer.</td>
</tr>
<tr>
<td>TERF</td>
<td>2100.2101</td>
</tr>
<tr>
<td>NSQ-HLL</td>
<td>TERFQ.2300,2400,2401,2402,2403</td>
</tr>
<tr>
<td>NSQ-LLL</td>
<td>NSQ-HLL, 2102,2404,2405</td>
</tr>
<tr>
<td>CQ</td>
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<tr>
<td>NVDCQ</td>
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<tr>
<td>RW DACM</td>
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</tr>
<tr>
<td>FW DACM</td>
<td>TERFQ.4304,4305</td>
</tr>
<tr>
<td>AG GAU-17/A</td>
<td>NSQ LLL,2601,2605,2609,3100,3101,3103,3200,3203,3301,6301</td>
</tr>
<tr>
<td>AG M240D</td>
<td>NSQ LLL,2602,2606,2610,3100,3101,3103,3200,3203,3301,6302</td>
</tr>
<tr>
<td>AG GAU-21</td>
<td>NSQ LLL,2603,2607,2611,3100,3101,3103,3200,3203,3301,6303</td>
</tr>
</tbody>
</table>

### Designation Event Requirements

<table>
<thead>
<tr>
<th>Designation</th>
<th>Event Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>AO</td>
<td>CIX-1901</td>
</tr>
</tbody>
</table>

#### 3.5 SYLLABUS NOTES

**General.** The MAWTS-1 Course Catalog contains a summary matrix of all ground, academic, simulator, and flight requirements for each stage of the T&R. This matrix will be put in the Aircrew Performance Record (APR) of all aircrew to thoroughly track training progression. As each training event is completed, the EATM will input the date of completion.

All events, to include simulators, shall begin with a comprehensive brief with emphasis on administrative procedures, Crew Resource Management (CRM), Tactical procedures, mission performance standards and aircrew expectations.
All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance utilizing all evaluation techniques available (e.g. videotape, participating aircrews, external support personnel).

An EATF is required for any initial event completed by a Basic/Transition, Refresher or Series Conversion aircrew, or as recommended by the Squadron Standardization Board. If the commanding officer has waived/deferred a syllabus sortie, the squadron training officer shall place a waiver/deferral letter in section 3 of the APR. Standardized EATFs can be obtained by the T&R sponsor, MAWTS-1.

All aircrew will have an APR. The EATM shall ensure each EATF is entered in section 3 of the APR.

When operational commanders assign HMLA squadrons to prolonged commitments where specific T&R training is not available (e.g., MEU deployments, sustained combat deployments), it is expected that degradation in some mission areas will occur. Commanding officers are authorized to defer training in specific missions that are not relevant to their current deployment situation. Once the squadron or detachment has returned from the deployment, every effort should be made to achieve the deferred training for the affected crewmember.

Compliance with the written flight description is mandatory for syllabus event completion. In the absence of a flight simulator, completion of a syllabus event is not required to complete that stage. Completion of those events should be accomplished as soon as practical upon simulator availability. Should the command desire, simulator events can be flown in the aircraft for T&R credit.

Training should be accomplished by flying events within a stage in sequence and stages in sequence when practical. As an example, prerequisites allow a CCUI/AOUI to fly events in other stages while waiting for the next HLL or LLL period.

Specific rules of conduct requirements for individual type missions (NVG training, CQs, DACM, etc.) can be found in Chapter 3 of the Aviation T&R Program Manual.

3.5.1 Event Header

Sortie Duration. Times indicated for each event are recommendations. When scheduling sorties, Enlisted Aircrew Training Managers are allowed to schedule additional training codes based on anticipated mission sets. This is allowed as long as the performance standards are met for each sortie and sufficient time is available during the flight to accomplish those sorties. If multiple syllabus events are to be accomplished during a single flight evolution, appropriate planning, briefing, and debriefing time shall be allotted to ensure that requisite training objectives can be met.

Proficiency Interval. The proficiency Interval, more commonly called “Refly Factor”, reflect the maximum time between syllabus events. Refly factors are delineated in days. If not applicable, an asterisk (*) will be used to indicate the event has no refly interval – it is a one-time training requirement (unless R-coded).

Programs of Instruction. Delineates event requirements for specific syllabi.

Event Conditions. Refer to the following table for required event conditions:

<table>
<thead>
<tr>
<th>Code</th>
<th>Environmental Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Shall be conducted during day.</td>
</tr>
<tr>
<td>N</td>
<td>Shall be conducted at night, aided or unaided.</td>
</tr>
<tr>
<td>(N)</td>
<td>May be conducted day or night. If at night, aided or unaided.</td>
</tr>
<tr>
<td>NS</td>
<td>Shall be conducted at night aided under High Light Level or Low Light Level.</td>
</tr>
<tr>
<td>HLL</td>
<td>Shall be conducted at night aided under High Light Level conditions.</td>
</tr>
<tr>
<td>LLL</td>
<td>Shall be conducted at night aided under Low Light Level conditions.</td>
</tr>
<tr>
<td>(NS)</td>
<td>May be conducted day or night. If at night, aided under HLL or LLL.</td>
</tr>
<tr>
<td>(HLL)</td>
<td>May be conducted day or night. If at night, aided under HLL.</td>
</tr>
<tr>
<td>(LLL)</td>
<td>May be conducted day or night. If at night, aided under LLL.</td>
</tr>
<tr>
<td>N*</td>
<td>Shall be conducted at night unaided.</td>
</tr>
<tr>
<td>(N*)</td>
<td>May be conducted day or night. If at night, shall be flown unaided.</td>
</tr>
</tbody>
</table>

E*-Coded Events. Delineates a special event that requires an evaluation. The “E”-coded event also requires an EATF upon execution of every occurrence.

Device Codes. Refer to the following table for device codes:
3.5.2 Event Body

Requirement. The requirement lists specific tasks for the event and indicates what the individual should accomplish.

Discuss. The IP shall discuss a procedure or maneuver during the brief, in flight, or debrief. The CCUI/AOUI is responsible for knowledge of the applicable procedures prior to the brief.

Demonstrate. The ICC performs the procedure with accompanying description. The CCUI/AOUI observes the procedure and is responsible for the knowledge of the procedure prior to the sortie.

Introduce. The ICC may perform the procedure with an accompanying description, or the ICC may coach the CCUI/AOUI through the procedure without demonstration. The CCUI/AOUI shall perform the procedure with coaching, as necessary, and is responsible for knowledge of the procedure prior to the sortie.

Review. The ICC observes and grades the procedure without coaching the CCUI/AOUI. An airborne critique of the CCUI/AOUI performance is at the option of the instructor. The CCUI/AOUI is expected to perform the procedure without coaching and devoid of procedural error at a level acceptable to warrant progress into the next stage of training.

Performance Standards. Performance standards are listed for each T&R event description. These are training standards for individual aircrew performance and shall be utilized by the evaluator as a guideline to determine the satisfactory completion of each event. If the aircrew did not successfully attain the performance standards, the training code shall not be logged as a completed flight. Logging multiple training codes on an initial single sortie shall be avoided.

Prerequisites. Events (academic or flight/simulator) that must be completed prior to the initiation of the event. Events preceding a “~” indicate prerequisites dependent on optional conditions (e.g. environmental and ordnance). For example SWD-2607~NS ORD, indicates that if the event is flown under HLL (NS) and ordnance is utilized (ORD), SWD-2607 is a required prerequisite.

Crew Requirements. The crew requirements listed at the end of each event are requirements for initial stage training flights. For operational flights the minimum crew requirements are defined by CNAFINST, NATOPS, and NAVMC 3500.14. When not clearly defined by higher directives, the squadron commanding officer, DOSS, or local SOPs may dictate the minimum crew requirements.

Ordnance/Range/Target/External Syllabus Support. Items required to successfully complete the required training.

3.5.3 Crew served weapons ordnance delivery standards

<table>
<thead>
<tr>
<th>CREW SERVED WEAPONS ENGAGEMENT STANDARDS</th>
<th>CORE INTRODUCTION &amp; CORE PHASE (1000 &amp; 2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day &amp; Hll</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td><strong>Majority of Impacts</strong></td>
</tr>
<tr>
<td>1500 Meters</td>
<td>Within 50 meter radius</td>
</tr>
<tr>
<td>1000 Meters</td>
<td>Within 25 meter radius</td>
</tr>
<tr>
<td>500 Meters</td>
<td>Within 15 meter radius</td>
</tr>
<tr>
<td><strong>LLL</strong></td>
<td><strong>Majority of Impacts</strong></td>
</tr>
<tr>
<td>1500 Meters</td>
<td>Within 40 meter radius</td>
</tr>
<tr>
<td>1000 Meters</td>
<td>Within 20 meter radius</td>
</tr>
<tr>
<td>500 Meters</td>
<td>Within 10 meter radius</td>
</tr>
<tr>
<td><strong>Mission Phase (3000)</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Grading Standards

**Complete.** The CCUI/AOUI has demonstrated sufficient grasp of the concepts and skills to proceed to the next training evolution or be designated appropriately.

**Incomplete.** Describes a training event that is not declared 'Complete' due to circumstances beyond the control of the aircrew. Examples may include, but are not limited to: WX, time constraints, aircraft or simulator maintenance, external support inadequate. 'Incomplete' shall not be used to obscure reporting of a substandard performance.

**Requires Additional Training (RAT).** A RAT is used when the CCUI/AOUI has not yet demonstrated sufficient grasp of the required skills and concepts to progress in the syllabus. A RAT is not derogatory in nature. Instructor remediation recommendations should specifically identify the deficient area(s) for addressing shortcomings in terms of reading assignments, courseware, additional flight, simulator, or other appropriate training. The Instructor assigning a R.A.T. synopsis is responsible for ensuring the recommendation has been endorsed by Squadron leadership and adhered to by the student unless a higher authority intervenes with additional guidance.

**Unsatisfactory.** Identifies a condition where the CCUI/AOUI has proven unable to meet performance standards due to a lack of preparation, lack of effort, consistent inability to demonstrate improvement or resistance to instruction. Significant safety of flight incidents that are of a direct result of the CC/AO under training actions should be considered unsatisfactory. The instructor assigning this event synopsis is responsible for ensuring recommendations for remediation, if applicable, are proposed through the DSS &

### Academic Training

Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

Academic training requirements are listed separately for each phase of flight training. Training may be completed earlier in stage but should be completed by the appropriate sortie(s). Course descriptions are as follows:

**Interactive Courseware (ICW).** This is a Computer Based Training (CBT) syllabus for Core Skill Introduction training. It consists of both self-paced lessons and instructor-presented phase lectures.

**Academic Support Package (ASP).** These are MAWTS-1 prepared classes available on the MAWTS-1 websites. All material contained on the websites, both classified and unclassified are instructor-presented lectures. The classes listed are only the Generics, Common or Specific UH-1 classes.

**Computer Based Training.** These are software and/or hardware computer training aids designed to augment training for specific systems.

**Squadron Developed Training.** Squadron-developed curriculum is used to enhance the above programs. Recognition training should be continuous.

**Websites.** The MAWTS-1 websites have classes, publications and other pertinent material and are included below.

**NIPR:** [https://hcs.usmc.mil/sites/mawts1/default.aspx](https://hcs.usmc.mil/sites/mawts1/default.aspx)

**SIPR:** [http://intelshare.intelink.sgov.go/sites/mawts1](http://intelshare.intelink.sgov.go/sites/mawts1)
Graduate Level Courses. There are 9 graduate level courses (TERFI, AGI GAU-17, AGI M240D, AGI GAU-21, NSFI, NSSI, DACMI, NSI, and WTI) that qualify instructors for specific portions of the T&R syllabus. The requirements for these instructor certifications are contained in the MAWTS-1 Course Catalogs.

External academic courses of instruction available to complete the syllabus are listed below:

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<tr>
<td>Weapons and Tactics Instructor (WTI) Course</td>
<td>MAWTS-1</td>
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3.5.6 Secondary AMOS Crew Chief. All efforts shall be made with MMEA-84 to receive assignment of Primary MOS crew chiefs prior to utilizing the secondary AMOS program. If inventory shortages cannot be filled through MMEA-84, authorization is granted to individual unit commanding officers to train secondary AMOS 6174 under the following guidelines:

The number of secondary MOS crew chiefs that an individual unit commander may train is limited to the current staffing formula; 1.6 CC x primary assigned aircraft (PAA) = number of crew chiefs minus primary/additional MOS crew chiefs on hand. For example, if a squadron has 14 primary/additional MOS crew chiefs assigned, and the staffing formula computes to 19 total crew chiefs, unit commanders may only request to train a maximum of 5 secondary AMOS crew chiefs to equal PAA.

To ensure standardization of training and aviation adaptability, all requested trainees shall be designated an Aerial Observer prior to starting secondary AMOS training.

The source population shall be restricted to aviation maintenance MOS of 6114, 6154, and 6324 only. All requests shall be submitted via AMHS message format to CG TECOM MTESD for approval prior to trainee starting flight syllabus. Message shall include:

1. Organization requesting training of secondary AMOS crew chief.
2. Name, rank, MOS, and SSN of trainee.
3. Total number of crew chiefs rated by PAA.
4. Total number of primary and secondary AMOS crew chiefs assigned to requesting MCC.
5. Adequate justification for training a secondary AMOS crew chief.
6. Faxed copy of initial AO NATOPS evaluation report (OPNAV 3710.7 form).

Upon receipt of request, TECOM ASB will approve/disapprove request via ASL/ASM and notify requesting command through AMHS format. Approved training will be conducted in strict compliance with this Manual and MCO P1200.7, Military Occupational Specialties Manual. Additional requirements are outlined below:

To ensure MOS standardization all Core Introduction (1000 Phase) codes shall be flown with a current Enlisted Weapons and Tactics Instructor (MOS 6177) or NATOPS Evaluator/Instructor holding a primary MOS of 6174. Only a currently assigned and designated FRS Crew Chief instructor (FRSI) shall administer the Core Skill Introduction evaluation flight (CSIX-1901).

The Total Time to Train (TTT) secondary AMOS crew chiefs shall not exceed six months. The date of initial flight and completion of evaluation flight define the TTT.
Core Introduction flights previously flown as an Aerial Observer will transfer to the training of the secondary AMOS Crew Chief, provided those flights were flown with the secondary AMOS candidate acting in the capacity of a crew chief.

Core Introduction flights not previously flown or that do not meet the above requirement shall be flown with the secondary AMOS candidate acting in the capacity of a crew chief.

Only the FRS commanding officer has the authority to designate the secondary AMOS of 6174. The evaluation flight may be flown at the respective FRS or individual requesting squadron. Requesting commands shall coordinate with the FRS for scheduling of the evaluation flight. TAD funding for either the trainee or FRS CC instructor shall be the responsibility of the requesting squadron.

The FRSI shall administer the oral and Core Skill Introduction evaluation flight (CSIX-1901) and closed book NATOPS examination. Prior to Core Skill Introduction evaluation flight parent commands shall ensure:

1. Nominees complete squadron approved open book NATOPS examination.
2. Prior to designation, nominees shall attend SERE training.

Upon completion of Core Skill Introduction evaluation flight, copies of all certifications and evaluations shall be submitted to the FRS Commanding officer for secondary AMOS certification/approval. Documents to be submitted are:

1. Copy of current flight physical.
2. Copy of physiology/water survival Form 3760.32.
3. Copy of all crew chief 1000 series EATFs.
4. Copy of current flight orders.
5. Copy of section III(c), examination record, OPNAV 3760/32G.
6. Copy of initial AO evaluation form, OPNAV 3710.7.
7. Original Crew Chief evaluation form, OPNAV 3710.7.
8. Copy of SERE completion certificate.
9. Marines listed as instructor on 1000 phase EATFs must submit a copy of respective WTI certificate or NATOPS Evaluator/Instructor designation. The primary purpose of this documentation is to assist the model manager in tracking the certification process and identifies positive/negative trends in the training process. Evaluation standards applicable to primary MOS crew chiefs shall be strictly adhered to for secondary AMOS crew chiefs.

The FRSI shall forward original OPNAV 3710.7 form to FRS Commanding officer for approval. The FRS commanding officer shall sign the NATOPS evaluation and a Crew Chief designation letter and forward to the originating command for insertion into trainees NATOPS jacket.

To facilitate management of the MOS end strengths, secondary AMOS crew chiefs desiring a primary 6174 MOS will forward the appropriate AA form to MMEA-6 requesting a lateral move from a secondary AMOS Crew Chief to a primary MOS Crew Chief.

On hand primary designated MOS Crew Chiefs shall have priority for crewmember flight orders IAW MCO 1326.2G, Administration of Temporary Indefinite Flight Orders.
Core, Mission, and Core Plus Skill events previously completed by the secondary AMOS crew chief in the Aerial Observer syllabus may transfer to their crew chief syllabus upon designation by the FRS Commanding officer and at the discretion of the crewmember’s commanding officer. Flights not previously completed as an Aerial Observer shall be flown by the AMOS Crew Chief; an EATF shall be written and filed in their APR. Qualifications attained previously may transfer at the unit commanding officer’s discretion.

This policy applies to Marines currently in training and is effective immediately. This is not applicable to Marines designated prior to this revision, or Marines currently assigned to the Executive Flight Detachment of HMX-1.

3.6 CORE INTRODUCTION PHASE (1000)

Purpose. To develop a Core Introduction complete Crew Chief or Aerial Observer, and to prepare the CCUI/AOUI for follow on Core Phase training. At the completion of this phase the CCUI/AOUI will be designated as a crew chief or aerial observer.

General. Completion of this phase meets the requirements for the designation as a Crew Chief with an MOS of 6174 or an Aerial Observer with an MOS of 6199. At the discretion of the squadron commanding officer a letter designating the CC/AO, shall be placed in the NATOPS jacket and an entry made in the flight log book. The TERF-1403 and CAT-1803 must be completed within (6) months (180) days of the CIX-1901. If six months have elapsed since the completion of either flight, that flight must be re-flown prior to completing the CIX-1901.

Core Introduction Stages

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3.7 CORE INTRODUCTION STAGES

3.7.1 Academics. These academics are intended to be an integrated series of academic events contained within each phase of training. Accordingly, academic events serve as pre-requisites to selected flight events or stages.

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3.7.2 Familiarization (FAM)

Purpose. To develop familiarity with aircraft flight characteristics, limitations, and emergency procedures during day and night operations. Develop proficiency in assisting pilots in all aspects of FAM flight and to instill basic CRM procedures throughout the familiarization stage.

General. At the completion of this stage, the CCUI/AOUI shall have demonstrated the ability to assist pilots in all aspects of FAM flight, both day and night.

AOUI Requirements. 1100, 1102, 1103

Crew Requirement. As listed at the end of each event.

Ground/Academic Training. IAW HMLA/T-303 curriculum requirements.

FAM-1100 1.5 * B D A/S 1 UH-1Y

Goal. Introduce normal ground and flight procedures.

Requirements

Discuss
Engine Fire on Start (external)
APU Fire

**Demonstrate**
- Use of ICS
- Voice procedures
- Aircraft Lighting
- Using the clock code system
- Estimating distance

**Introduce**
- Preflight
- Starting
- Taxi
- Takeoff
- Low work
- Precision approach
- Lookout
- Waveoff procedures
- Normal approach
- No hover landings
- Post flight

**Performance Standards**
- Demonstrate knowledge of the procedures prior to the sortie.
- Display knowledge of ICS voice procedure and all applicable emergency procedures.
- Perform crewmember duties during all phases of flight in accordance with UH-1Y NATOPS.

**Prerequisite.** 1000

**Crew.** FRSI or TERFI/CCUI or AOUI

**FAM-1101** 1.5 * B,SC D A/S 1 UH-1Y

**Goal.** Introduce communications, passenger procedures, normal and emergency procedures.

**Requirements**

**Discuss**
- Engine Failures in Flight
- Smoke and Fumes Elimination
- Ditching procedures
- Aircraft, engine, and transmission limitations

**Introduce**
- Precautionary/emergency landings
- Autorotations
- Communication/navigation equipment (DFD)
- Passenger briefs
- Passenger emergency procedures
- Weight and balance calculations
- Responsibilities during loading

**Performance Standards**
- Demonstrate knowledge of the procedures prior to the sortie.
- Display knowledge of ICS voice procedures and all applicable emergency procedures.
- Perform crewmember duties during all phases of flight in accordance with UH-1Y NATOPS.

**Prerequisite.** 1100

**Crew.** FRSI or TERFI/CCUI

**FAM-1102** 1.5 * B,SC D A/S 1 UH-1Y

**Goal.** Introduce FAM maneuvers.
Requirements

Discuss
- Airfield pattern operations
- MDG/NATOPS maneuvers

Review
- Preflight
- Starting
- Taxi
- Takeoff
- Low work
- Precision approach
- Lookout
- Waveoff procedures
- Normal approach
- No hover landings
- Sliding landings
- Post flight

Introduce
- Maximum power takeoff
- Power limited takeoff
- High Speed approach and landing
- Tactical approach profile
- Sliding Landings
- Fixed pitch tail rotor malfunctions

Performance Standards.

Demonstrate knowledge of the procedures prior to the sortie.

Display ability to perform crewmember duties using NVDs.

Prerequisite. 1101

Crew. FRSI or TERFI/CCUI or AOUI

FAM-1103 1.5 * B,SC NS A/S 1 UH-1Y

Goal. Introduce NVD techniques (HLL).

Requirements

Discuss
- NVD preflight/adjustment/focusing
- ANV-20-20 Eye Lane System Resolution Test Set use
- NVD emergencies/malfunctions
- Aircraft emergencies while using NVDs
- Aircrew coordination

Introduce
- Wear and use of NVDs

Performance Standards.

Demonstrate knowledge of the procedures prior to the sortie.

Display ability to perform crewmember duties using NVDs.

Prerequisite. 1102, 1800

Crew. NSFI or NSI/CCUI or AOUI

3.7.3 Formation (FORM)
**Purpose.** To become familiar with crew functions and responsibilities required during formation flying.

**General.** At the completion of this stage, the CCUI/AOUI shall have demonstrated the ability to assist pilots in all aspects of formation flight, both day and night.

**AOUI requirement.** 1301

**Crew Requirement.** As listed at the end of each event.

**Ground/Academic Training.** IAW HMLAT-303 curriculum requirements.

---

**FORM-1301 1.5 * B D A 2 H-1**

**Goal.** Introduce formation flight and tactical formation flight maneuvering.

**Requirements**

**Discuss**  
Parade  
Cruise  
Combat cruise  
Combat spread  
Tac turn  
Center turn  
In-place turn  
Split turn  
Cross turn  
Break turn  
Dig and pinch/resume  
Reversal  
Shackle turn  
Cover  
Ordnance delivery patterns

**Introduce**  
Tactical formations  
Maneuvers  
Hand and arm signals

**Review**  
Lookout procedures  
Crewmember responsibilities

**Performance Standards**  
Demonstrate knowledge of the procedures prior to the sortie.  
Display thorough knowledge of Tactical formation maneuvers.  
Demonstrate proficiency assisting pilots in Tactical formation maneuvers.

**Prerequisite.** 1102

**Crew.** FRSI or TERFI/CCUI or AOUI

---

**FORM-1303 1.5 * B NS A 2 H-1**

**Goal.** Introduce NVD formation flight and tactical formation flight maneuvering (HLL).

**Requirements**

**Review**  
Hand and arm signals  
Lookout procedures  
Crewmember responsibilities associated with formation flying at night

**Performance Standards.** Demonstrate proficiency assisting pilots in night formation maneuvers.

**Prerequisite.** 1103, 1301
3.7.4 Terrain Flight (TERF)

**Purpose.** To develop aircrew coordination required during TERF.

**General.** At the completion of this stage, the CCUI/AOUI shall have demonstrated the ability to assist the pilot in TERF.

**AOUI requirements.** 1401, 1403

**Crew Requirement.** As listed at the end of each event.

**Ground/Academic Training.** IAW HMLAT-303 curriculum requirements.

**TERF-1401 1.0**

**Goal.** Introduce TERF techniques.

**Requirements**

**Discuss.** Aircraft clearance

Aircraft emergencies during TERF altitudes

**Introduce.**

Blade walk

Power checks

Masking/unmasking

NOE quickstops

Bunt

Roll

Low level, contour, and NOE profiles

**Performance Standards.**

Demonstrate knowledge of the procedures prior to the sortie.

Display knowledge and ability to assist pilots in TERF environment.

**Prerequisite.** 1102

**External Syllabus Support.** Authorized TERF Area

**Crew.** FRSI or TERFI/CCUI or AOUI

**TERF-1403 1.0**

**Goal.** Introduce NVD TERF techniques (HLL).

**Requirements**

**Discuss.** NVD considerations in the TERF environment

**Introduce.**

Blade walk

Power checks

Masking/unmasking

NOE quickstops

Bunt

Roll

Low level, contour, and NOE profiles on NVDs

**Performance Standards.**

Demonstrate knowledge of the procedures prior to the sortie.
Display knowledge and ability to assist pilots in TERF environment while using NVDs.

**Prerequisites.** 1103, 1401

**External Syllabus Support.** Authorized TERF Area

**Crew.** NSFI or NSI/CCUI or AOUI

**3.7.5 Navigation Flight (NAV)**

**Purpose.** To become familiar with crew functions and responsibilities while navigating without use of radio navigational aids.

**General.** At the completion of this stage, the CCUI/AOUI shall have demonstrated the ability to assist the pilots in all phases of in-flight navigation.

**AOUI requirement.** Not Required.

**Crew Requirement.** As listed at the end of each event.

**Ground/Academic Training.** IAW HMLA/T-303 curriculum requirements.

**NAV-1500 1.5 * B D A/S 1 UH-1Y**

**Goal.** Introduce aircrew duties during navigation.

**Requirements**

**Introduce**

- Checkpoints
- Time distance checks
- Barrier features
- Prominent terrain features
- Map legends
- Map preparation
- Route card usage

**Review**

- Lookout procedures
- Aircrew coordination required during navigation

**Performance Standards.**

- Demonstrate knowledge of the procedures prior to the sortie.
- Display the knowledge and ability to assist pilots in navigation

**Prerequisite.** 1102.

**Crew.** FRSI or TERFI (NSFI or NSI)/CCUI

**3.7.6 Specific Weapons Delivery (SWD)**

**Purpose.** To familiarize the aircrew with the procedures required to provide fire on targets of opportunity.

**General.** At the completion of this stage, the CCUI/AOUI shall have demonstrated knowledge of weapons systems and ordnance delivery with crew served weapons. If there is no UH-1Y enlisted aircrew simulator or static weapons trainer available, the SSWD-1600 may be logged in conjunction with SWD-1601.

**AOUI requirements.** SSWD-1600 and 1601

**Crew Requirement.** As listed at the end of each event.

**Ground/Academic Training.** IAW HMLA/T-303 curriculum requirements.

**SWD-1600 1.5 * B D A/S 1 UH-1Y**

**Goal.** Introduce weapons and checklist procedures.
Requirements

Introduce
- Ordnance loading
- Preflight/post-flight of the weapon
- Operations
- Safety procedures
- Weapons conditions
- Ordnance weapons checklist
- Practice firing weapons on pre-briefed targets
- Crew coordination

Performance Standards.
- Demonstrate knowledge of the procedures prior to the sortie.
- Display knowledge and ability to safely employ crew served weapons IAW crew served weapons engagement standards per paragraph 3.5.3.

Prerequisites. 1401, 1800

Ordnance. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

External Syllabus Support. UH-1Y enlisted aircrew simulator or Static Weapons Trainer.

Range Requirement. Live fire range (Static Weapons Trainer)

Crew. AGI/CCUI or AOUI

SWD-1601 1.5 * B D A/S 1 UH-1Y

Goal. Introduce aerial gunnery training.

Requirements

Discuss
- Attack patterns
- Section operations
- Sighting procedures
- Malfunction/stoppage procedures
- Range estimation techniques.

Introduce
- Ordnance loading
- Preflight/post-flight of the weapon
- Operations
- Safety procedures
- Weapons conditions
- Ordnance weapons checklist
- Practice firing weapons on pre-briefed targets
- Crew coordination

Performance Standards. Display knowledge and ability to safely employ crew served weapons IAW crew served weapons engagement standards per paragraph 3.5.3.

Prerequisites. 1600

Ordnance. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement. Aerial gunnery range

Crew. AGI/CCUI or AOUI

3.7.7 Combat Assault Transport (CAT)

Purpose. To become familiar with crew responsibilities during operations in confined areas and safely conduct hook/hoist operations. All aspects of aircrew coordination shall be thoroughly briefed.
General. At the completion of this stage, the CCUI/AOUI shall have demonstrated the ability to assist the pilot in all aspects of confined areas, Tactical Landings, and hook/hoist operations IAW UH-1Y NATOPS and NTTP 3-22.3-UH1.

AOUI requirements. 1801, 1802.

Crew Requirement. As listed at the end of each event.

Ground/Academic Training. IAW HMLAT-303 curriculum requirements.

CAT-1800 1.5 *B D A/S 1 UH-1Y

Goal. Introduce confined area operations.
Requirement
Discuss
Settling with power
Landing zone brief
Dynamic rollover
Slope landings
Aircrew coordination

Introduce
Lookout procedures during CALs
Safety procedures
Aircraft clearance from obstacles
Terrain suitability
Approach/departure routes
Wave-off procedures

Performance Standards.
Demonstrate knowledge of the procedures prior to the sortie.
Display ability to safely conduct confined area landings.

Prerequisite. 1102

Crew. FRSI or TERFI/CCUI

CAT-1801 1.5 * B,SC D A/S 1 UH-1Y

Goal. Introduce Tactical Landing approaches.
Requirements
Discuss
Threat conditions
Tactical approaches/departures

Introduce
Operating in a low to high threat environment
Safety procedures
Aircraft clearance from obstacles
Terrain suitability
Approach/departure route
Wave-off procedures

Performance Standards.
Demonstrate knowledge of the procedures prior to the sortie.
Display ability to safely conduct TACTICAL landings and HIE approaches per NATOPS.

Prerequisites. 1800 (1102 for AOUI)

Crew. FRSI or TERFI/CCUI or AOUI
Goal. Introduce Confined Area Landings while using NVDs (HLL).

Requirements

Discuss
- Brown/white out
- Effects of moisture
- Crew coordination

Introduce
- Confined area landing night operating procedures
- Safety procedures
- Aircraft obstacle clearance
- Terrain suitability
- Approach/departure routes
- Wave-off procedures
- Ground lighting systems

Performance Standards.

- Demonstrate knowledge of the procedures prior to the sortie.
- Display ability to safely conduct confined area landings while using NVDs.

Prerequisite. 1103, 1801

Crew. NSFI or NSI/CCUI or AOUI

Goal. Introduce night Tactical Landings using NVDs (HLL).

Requirements

Discuss
- Brown/white out
- Effects of moisture
- Crew coordination

Introduce
- Confined area landing night operating procedures
- Safety procedures
- Aircraft obstacle clearance
- Terrain suitability
- Approach/departure routes
- Wave-off procedures
- Ground lighting systems

Performance Standards.

- Demonstrate knowledge of the procedures prior to the sortie.
- Display ability to safely conduct confined area landings while using NVDs.

Prerequisite. 1802

Crew. NSFI or NSI/CCUI

Goal. Introduce external load/hoist procedures.

Requirements

Discuss
- Aircrew coordination
Hand and arm signals
ICS terminology
Hook/hoist limitations/malfunctions
Load release
Emergency procedures
Chicago grip, quick splice, and cable cutters

**Introduction**

- Operational check of hoist/hook
- Use of rescue strop and jungle penetrator
- Cargo hook pendant and manual release
- Emergency procedures for external hook/rescue hoist

**Performance standards**

- Demonstrate knowledge of the procedures prior to the sortie.
- Demonstrate proper ICS terminology, hook/hoist operation and installation.
- Perform at least two hook-up, flight and release operations for cargo hook.
- Perform two hoisting operations using a suitable weight.

**Prerequisite**

1800

**External Syllabus Support**

External weight, hoist if available

**Crew**

FRSI/CCUI

3.7.8 **Core Introduction Check (CIX)**

**Purpose**

To evaluate proficiency in the performance of Core Introduction CC/AO duties and conduct an initial NATOPS/CRM Evaluation per the UH-1Y NATOPS and CNAFINST 1542.7 series.

**General**

Upon completion of the evaluation event, the CCUI/AOUI can be designated a CC/AO at the discretion of the FRS/squadron commanding officer.

**AOUI requirement**

CIX-1901

**Crew Requirements**

Initial CIX-1901 for CCUI must be conducted by the FRS. Initial CIX-1901 for AOUI may be conducted by squadron Assistant NATOPS Instructor.

**Ground/Academic Training**

NATOPS open book test, NATOPS closed book test and ground CRM training must be completed per the UH-1Y NATOPS and CNAFINST 1542.7 series prior to commencing the CIX-1901 flight event.

**CIX-1901**

1.0 * B,SC (NS) A 1 UH-1Y

**Goal**

Core Skill Introduction NATOPS and CRM evaluation.

**Requirement**

Conduct a CC/AO Initial NATOPS and CRM evaluation per criteria in the UH-1Y NATOPS and CNAFINST 1542.7 series.

**Performance Standards**

IAW UH-1Y NATOPS and CNAFINST 1542.7 series.

**Prerequisite**

Core Introduction phase complete, CRM ground training, NATOPS open book test, NATOPS closed book test

**Crew**

CRMF designated ANI (NSFI or NSI)/CCUI or AOUI

3.8 **CORE PHASE (2000)**

**Purpose**

To produce a TERF, NSQ-HLL, and NSQ-LLL qualified CC/AO.

**General**

Upon completion of this phase, the aircrew will be TERF, NSQ-HLL, and NSQ-LLL complete and may conduct additional missions as specified by the Squadron Commander.

TERFQ
After completing TERF-2100 and TERF-2101 the CCUI/AOUI meets the requirements to be Terrain Flight Qualified (TERFQ).

At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as TERFQ shall be placed in the NATOPS jacket and an entry made in the flight log book.

**NSQ-HLL**

After completing CAT-2403, the CCUI/AOUI meets the requirements to be Night Systems Qualified High Light Level (NSQ-HLL).

At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as NSQ-HLL shall be placed in the NATOPS jacket and an entry made in the flight log book.

**NSQ-LLL**

After completing LLL-2405, the CCUI/AOUI meets the requirements to be Night Systems Qualified Low Light Level (NSQ-LLL).

At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as NSQ-LLL shall be placed in the NATOPS jacket and an entry made in the flight log book.

### CORE Stages

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### 3.9 CORE STAGES

#### 3.9.1 Academics (ACAD)

**Purpose**

To develop a Core Skill complete Crew Chief or Aerial Observer.

These academics facilitate understanding of functions/operations in the UH-1Y and ensure individuals possess the requisite knowledge to be TERF, NSQ-HLL and NSQ-LLL qualified.

The focus of this training is combat proficiency.

**General**

These academics are intended to be an integrated series of academic lectures contained within each phase of training.

Accordingly, academic events are like any other event in that they serve as prerequisites to selected flight events or stages.

The lectures are contained in the MAWTS-1 Enlisted Aircrew Academic Support Package.

The codes associated with these academic requirements do not require EATFs.

At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the EATM.

The codes below are for lectures only; readings and guided discussions are NOT included and are contained only in the course catalog.

Reference the current UH-1Y Course Catalog for the most recent academic requirements.
Core Skill academic events are listed below:

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3.9.2 Terrain Flight (TERF)

Purpose. To refine proficiency in terrain flight and navigation.

General. CCUI/AOUI will demonstrate proficiency in terrain flight and navigation.

AOUI Requirements. 2100, 2101, 2102

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

**TERF-2100** 1.0 180 B, R, M D A 1 UH-1Y

Goal. Introduce TERF navigation.

Requirements

Discuss

- Safety precautions when operating in a TERF environment
- Tactical considerations during TERF
- Obstacle avoidance

Introduce

- TERF Navigation
- Use of checkpoints
- Time distance checks
- Barrier features
- Prominent terrain features
- Map legend
- Map preparation
- Route cards

Review

- TERF Profiles
- TERF maneuvers
- Blade walk
- Power checks

Performance Standards

Demonstrate the ability to safely perform TERF navigation in low level, contour, and NOE environments.

Demonstrate the ability to conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.
Prerequisites. 2050, 2051, 1901

Range Requirement. Authorized TERF route

Crew. TERFI/CCUI or AOUI

**TERF-2101** 1.0 180 B,R,SC,M NS A 1 UH-1Y

Goal. Review TERF maneuvers and navigation using NVDs (HLL).

Requirements

Discuss
- Safety precautions when operating in a TERF environment
- Safety precautions when flying on NVGs
- Terrain suitability
- TERF maneuvers at night

Introduce
- NVD lookout procedures during TERF
- Use of the ANV-20/20 NVD Infinity Focus Device

Review
- Checkpoints
- Time distance checks
- Barrier features
- Prominent terrain features
- Map legend
- Map preparation
- Route cards

Performance Standards
- Demonstrate the ability to safely perform TERF navigation in low level, contour, and NOE environments.
- Demonstrate the ability to conduct all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.

Prerequisite. 2052, 2100

Range Requirement. Authorized TERF route

Crew. NSI/CCUI or AOUI

**TERF-2102** 1.5 180 B,R,M NS A 2 1 UH-1Y & 1 H-1

Goal. Develop proficiency in tactical formation flight and TERF navigation (LLL).

Requirements

Discuss
- Safety precautions when flying during Low Light Level conditions
- Terrain suitability
- Section mechanics during TERF
- LLL formation flight considerations

Introduce. TERF maneuvers in the LLL environment

Review
- Safety precautions when operating in a TERF environment
- NVD lookout procedures during TERF
- Use of the ANV-20/20 NVD Infinity Focus Device

Performance Standards
- Demonstrate proficiency in all TERF maneuvers IAW the UH-1Y NATOPS, MDG and NTTP.
- Demonstrate the ability to accurately prepare a map and assist the pilots in navigation in the TERF environment.

Prerequisite. NSQ HLL

Range Requirement. Authorized TERF route
Crew. NSI/CCUI or AOUI

3.9.3 Reconnaissance (REC)

**Purpose.** To develop proficiency in reconnaissance operations.

**General**

The CCUI/AOUI will demonstrate proficiency in sensor employment for target detection, recognition and identification during reconnaissance operations.

The CCUI/AOUI shall be familiar with the use of the Night Thermal Imaging System (NTIS).

The CCUI/AOUI will safely conduct operational tasks prior to and during NTIS operations.

The GREC-2300 shall be conducted on the ground with an operable FLIR.

All efforts should be made to utilize BSB II configured aircraft for these events.

**AOUI Requirement.** 2300

**Crew Requirement.** As listed at the end of each event.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog.

**GREC-2300** 1.0 * B (NS) G 1 UH-1Y

**Goal.** Familiarize the CCUI and AOUI with terminology, preflight, post-flight, switchology of NTIS.

**Requirements**

**Discuss**

Terminology

LRF operation and Laser safety considerations

CRM as it relates to NTIS

Integration of handheld optics and aircraft sensor systems

**Introduce**

Sensor system power up

Controller operation

Laser operations

Shutdown procedures

**Performance Standards.**

Demonstrate basic knowledge and understanding of FLIR/NTIS operations to include; track, polarity, freeze, cage, zoom and safe LRF utilization.

Locate and demonstrate the ability to assist crew with target correlation (if available) utilizing the FLIR/NTIS.

**Prerequisite.** 2050, 1901

**Range Requirement.** LASER safe range, if available.

**External Syllabus Support.** Thermally augmented threat vehicles, if available.

**Crew.** NSI/CCUI or AOUI

3.9.4 Combat Assault Transport (CAT)

**Purpose.** To develop proficiency in section tactical approaches, landings and departures during day and HLL conditions.

**General.** The CCUI/AOUI will demonstrate proficiency in tactical landings, tactical approaches and section Combat Assault Transport skills.

**AOUI Requirements.** 2402 through 2405

**Crew Requirement.** As listed at the end of each event.
Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

**CAT-2400 1.5 * B D A 1 UH-1Y**

**Goal.** Develop proficiency in tactical approaches, landings and departures.

**Requirement**

**Discuss**
- Tactical approaches, landings and departures
- Individual waveoffs
- HIE operations
- Safety and NATOPS limitations
- Reduced Visibility Landings (RVLs) and CRM
- Terrain/obstacle clearance
- ICS terminology
- Crew coordination during Tactical Landing and HIE approaches

**Introduce**
- Tactical approaches/departures
- Slope landings
- HIE terminology and operations

**Performance Standards**
- Demonstrate the ability to assist pilots in a minimum of 8 landings, with a minimum of 1 simulated/actual reduced visibility landing.
- Demonstrate proper crew coordination during takeoff/landings and aircraft clearance.

**Prerequisites.** 2050, 2060, 2061, 1901

**Crew.** TERFI/CCUI

**CAT-2401 1.5 * B NS A 1 UH-1Y**

**Goal.** Develop proficiency in tactical approaches, landings and departures utilizing NVDs during (HLL).

**Requirements**

**Discuss**
- Crew coordination during Tactical Landings and HIE approaches
- RVL considerations
- Closure rates and drift
- NVD lookout procedures during tactical landings and HIE approaches
- Use of the ANV-20/20 NVD Infinity Focus Device

**Introduce**
- Tactical approaches/departures while using NVDs
- HIE terminology and operations at night

**Review**
- Tactical approaches/departures
- HIE operations
- Safety and NATOPS limitations
- Terrain/obstacle clearance
- ICS terminology

**Performance Standards**
- Demonstrate the ability to assist pilots in a minimum of 8 landings, with a minimum of 1 simulated/actual reduced visibility landing.
- Demonstrate proper crew coordination during takeoffs/landings, and aircraft obstacle clearance.

**Prerequisites.** 2052, 2400

**Crew.** NSI/CCUI
**Goal.** Introduce tactical Combat Assault Transport ingress profiles and landing formations IAW UH-1 NTTP.

**Requirements**

**Introduce**
- Section tactical approaches, landings and departures
  - Single Point, Single Axis Ingress Profile
  - Single Point, Dual Axis Ingress Profile
  - Multiple Point, Single Axis Ingress Profile
  - Multiple Point, Dual Axis Ingress Profile

**Review**
- Tactical approaches/departures
- Section mechanics
- HIE operations
- Safety and NATOPS limitations
- Terrain/obstacle clearance
- ICS terminology
- Crew coordination during Tactical Landings and HIE approaches
- Brown/white out considerations
- Closure rates and drift

**Performance Standards**
- Demonstrate the ability to assist pilots with minimum of 4 ingress profiles accomplished as lead and 4 ingress profiles accomplished as the wingman.
- A minimum of two ingress profiles shall end in a fast rope approach.
- Demonstrate proper crew coordination, aircraft clearance, and wingman awareness.

**Prerequisites.** 2100, 2400

**Crew.** TERFI/CCUI

---

**Goal.** Conduct tactical Combat Assault Transport ingress profiles and landing formations IAW UH-1 NTTP (HLL).

**Requirements**

**Discuss.** Previously discussed stage items.

**Review**
- Section tactical ingress profiles, approaches, landings and departures
- Simultaneous landings
- Low to high rejoins IAW UH-1 NTTP
- Slope landings
- Section tactical approaches, landings and departures at night
- NVD compatible landing zone lighting aids
- Use of overt / IR searchlight
- NVD scan patterns during approach and landing in lead and -2 positions
- Night RVLs
- Far/near ITG
- Sensor usage in zone identification
- Fast rope/Rappel Profiles and communication
- Flight and individual waveoffs

**Evaluate.** CCUI’s ability to assist the pilots in safely conducting tactical ingress profiles, approaches and landings under HLL conditions

**Performance Standards**
- Demonstrate the ability to assist pilots with minimum of 4 ingress profiles accomplished as lead and 4 ingress profiles accomplished as the wingman.
A minimum of 2 ingress profiles shall end in a fast rope approach. Demonstrate proper crew coordination, aircraft clearance, and wingman awareness.

**Prerequisite**: TERFQ, 2300, 2401, 2402

**Crew**: NSI/CCUI or AOUI

**Goal**: Develop proficiency in landings and departures utilizing NVDs during (LLL).

**Requirements**

- **Discuss**
  - Crew coordination during Tactical Landings and RIE approaches
  - RVL considerations
  - Closure rates and drift
  - NVD lookout procedures during tactical landings and RIE Approaches

- **Introduce**
  - Tactical approaches and departures during LLL

- **Review**
  - Tactical approaches/departures while using NVDs
  - HIE operations
  - Safety and NATOPS limitations
  - Terrain/obstacle clearance
  - ICS terminology
  - Use of the ANV-20/20 NVD Infinity Focus Device

**Performance Standards**

Demonstrate the ability to assist pilots in a minimum of 5 landings.

Demonstrate proper crew coordination during takeoffs/landings, and aircraft obstacle clearance.

**Prerequisites**: NSQ HLL

**Crew**: NSI/CCUI or AOUI

**Goal**: Review section tactical ingress profiles, approaches, landings, and departures (LLL).

**Requirements**

- **Discuss**
  - Section tactics under LLL conditions
  - Reduced Visibility Landings (RVLs) and CRM

- **Introduce**
  - Section Tactical landings under LLL conditions

- **Review**
  - Section mechanics
  - RIE operations
  - Safety and NATOPS limitations
  - Reduced Visibility Landings (RVLs) and CRM
  - Closure rates and drift

**Performance Standards**

Demonstrate the ability to assist pilots in a minimum of 4 landings as lead and 4 landings as the wingman. A minimum of 2 approaches shall end in a fast rope profile.

**Prerequisite**: 2404

**External Syllabus Support**: Unlit field or remote landing site free from artificial illumination

**Crew**: NSI/CCUI or AOUI
3.9.5 Specific Weapons Delivery (SWD)

**Purpose.** To develop proficiency in SWD and weapons system employment.

**General**

Upon successful completion of this stage the CCUI/AOUI will demonstrate knowledge of weapons systems and proficiency in SWD with crew served weapons.

Section operations should be used if available.

Weapon mounted Lasers should be used for all SWD NVD flights.

Refer to paragraph 3.5.3 for crew served weapons ordnance delivery standards.

**AOUI Requirements.** 2601-2603, 2605-2607, 2609-2611

**Crew Requirements.** As listed at the end of each event.

**Ground/Academic Training.** IAW the MAWTS-1 UH-1 Course Catalog. Prior to commencing each flight, the CCUI/AOUI shall receive appropriate ground training by an Aerial Gunnery Instructor/Night Systems Instructor for the respective weapons and Laser usage.

**Goal.** Introduce GAU-17/A machine gun employment.

**Requirements**

**Discuss**

- Safety considerations associated with ordnance evolutions
- Weapons Checklist procedures
- Crew coordination
- Attack profiles
- Range estimation
- Squadron ordnance SOPs
- CALA and Arm/De-arm procedures
- Switchology

**Introduce**

- Ordnance loading
- Weapon system preflight
- Weapon system employment
- Weapon system post-flight
- Cycle of operation
- Weapon system troubleshooting and malfunction procedures
- Proper switchology
- Attack profiles

**Review**

- Weapon system emergency procedures
- Weapons control procedures
- Verbal/non-verbal fire control commands
- Fundamentals of aerial gunnery

**Performance Standards**

- Demonstrate basic knowledge of nomenclature and cycle of operation.
- Demonstrate the ability to safely and effectively employ the GAU-17/A IAW crew served weapons employment table.
- Demonstrate proper disassembly, inspection and reassembly of the weapon system.

**Prerequisite.** 2040, 2053, 2055, 2100, 2400
**Ordnance**. 1,500 rounds 7.62mm

**Range Requirement**. Aerial gunnery range

**Crew**. AGI/CCUI or AOUI

**Goal**. Introduce M240D machine gun employment.

**Requirements**

*Discuss*
- Safety considerations associated with ordnance evolutions
- Weapons Checklist procedures
- Crew coordination
- Attack profiles
- Range estimation
- Squadron ordnance SOPs
- CALA and Arm/De-arm procedures

*Introduce*
- Ordnance loading
- Weapon system preflight
- Weapon system employment
- Weapon system post-flight
- Cycle of operation
- Weapon system troubleshooting and malfunction procedures
- Attack profiles

*Review*
- Weapon system emergency procedures
- Weapons control procedures
- Verbal/non-verbal fire control commands
- Fundamentals of aerial gunnery

**Performance Standards**
- Demonstrate basic knowledge of nomenclature and cycle of operation.
- Demonstrate the ability to safely and effectively employ the M240D IAW crew served weapons employment table.
- Demonstrate proper disassembly, inspection and reassembly of the weapon system.

**Prerequisites**. LAB-2041, ACAD-2053 and 2056, TERF-2100, CAT-2400

**Ordnance**. 600 rounds 7.62mm

**Range Requirement**. Aerial gunnery range

**Crew**. AGI/CCUI or AOUI

**Goal**. Introduce GAU-21 .50 caliber machine gun employment.

**Requirements**

*Discuss*
- Safety considerations associated with ordnance evolutions
- Weapons Checklist procedures
- Crew coordination
- Attack profiles
- Range estimation
- Squadron ordnance SOPs
- CALA and Arm/De-arm procedures

*Introduce*
Ordnance loading
Weapon system preflight
Weapon system employment
Weapon system post-flight
Cycle of operation
Weapon system troubleshooting and malfunction procedures
Attack profiles

Review
Weapon system emergency procedures
Weapons control procedures
Verbal/non-verbal fire control commands
Fundamentals of aerial gunnery

Performance Standards
Demonstrate basic knowledge of nomenclature and cycle of operation.
Demonstrate the ability to safely and effectively employ the GAU-21 IAW crew served weapons employment table.
Demonstrate proper disassembly, inspection and reassembly of the weapon system.

Prerequisites. 2042, 2053, 2057, 2100, 2400
Ordnance. 600 rounds .50 cal
Range Requirement. Aerial gunnery range
Crew. AGI/CCUI or AOUI

Goal. Introduce GAU-17/A machine gun employment in the night environment.

Requirements
Discuss
Safety considerations associated with ordnance evolutions during night time operations
Range estimation
CALA and Arm/De-arm procedures
Laser Aiming Devices

Introduce
Weapons employment during NVD operations
Preflight, post-flight, and usage of Laser Aiming Devices
Laser terminology

Review
Weapons Checklist procedures
Crew coordination
Attack profiles
Switchology

Performance Standards
Demonstrate detailed knowledge of nomenclature and cycle of operation.
Demonstrate the ability to safely and effectively employ the GAU-17/A IAW crew served weapons employment table.
Demonstrate proper jam clearing and troubleshooting techniques while using NVDs.

Prerequisites. 2058, 2059, 2401, 2601, TERFQ
Ordnance. 1,500 rounds 7.62mm
Range Requirement. Aerial gunnery range
Crew. NSI/CCUI or AOUI
Goal. Introduce M240D machine gun employment in the night environment.

Requirements

Discuss
Safety considerations associated with ordnance evolutions during night time operations
Range estimation
CALA and Arm/De-arm procedures
Laser Aiming Devices

Introduce
Weapons employment during NVD operations
Preflight, post-flight, and usage of Laser Aiming Devices
Laser terminology

Review
Weapons Checklist procedures
Crew coordination
Attack profiles

Performance Standards
Demonstrate detailed knowledge of nomenclature and cycle of operation.
Demonstrate the ability to safely and effectively employ the M240D IAW crew served weapons employment table.
Demonstrate proper jam clearing and troubleshooting techniques while using NVDs.

Prerequisites. 2058, 2059, 2401, 2602, TERFQ

Ordnance. 600 rounds 7.62mm

Range Requirement. Aerial gunnery range

Crew. NSI/CCUI or AOUI

Goal. Introduce GAU-21 .50 caliber machine gun employment in the night environment.

Requirements

Discuss
Safety considerations associated with ordnance evolutions during night time operations
Range estimation
CALA and Arm/De-arm procedures
Laser Aiming Devices

Introduce
Weapons employment during NVD operations
Preflight, post-flight, and usage of Laser Aiming Devices
Laser terminology

Review
Weapons Checklist procedures
Crew coordination
Attack profiles

Performance Standards
Demonstrate detailed knowledge of nomenclature and cycle of operation.
Demonstrate the ability to safely and effectively employ the GAU-21 IAW crew served weapons employment table.
Demonstrate proper jam clearing and troubleshooting techniques IAW checklist procedures while using NVDs.

Prerequisite. 2058, 2059, 2401, 2603, TERFQ
Ordnance. 600 rounds .50 cal

Range Requirement. Aerial gunnery range

Crew. NSI/CCUI or AOUI

| SWD-2609 | 2.0 | 180 | B,R,SC,M | NS | A | 2 | 1 UH-1Y & 1 H-1 |

Goal. Demonstrate GAU-17/A machine gun employment in the night environment.

Requirements

Discuss
Safety considerations associated with ordnance evolutions during night time operations
Penetration checklist procedures
Aircraft Survival Equipment (ASE)
Sensor integration
Ordnance effects on NVDs during NS operations

Introduce
Weapons employment during NS operations
Integration of FLIR to aid in acquiring targets

Review
Weapons Checklist procedures
Crew coordination
Attack profiles
Preflight, post-flight, and usage of Laser Aiming Devices
Laser terminology and operating characteristics

Performance Standards
Demonstrate detailed knowledge of nomenclature and cycle of operation.
Demonstrate proficiency in all aspects of GAU-17/A weapons employment IAW crew served weapons employment table.
Demonstrate proper jam clearing and troubleshooting techniques while on NVDs IAW checklist procedures.

Prerequisite. 2403, 2605, TERFQ

Ordnance. 1,500 rounds 7.62mm

Range Requirement. Aerial gunnery range

Crew. NSI/CCUI or AOUI

| SWD-2610 | 2.0 | 180 | B,R,SC,M | NS | A | 2 | 1 UH-1Y & 1 H-1 |

Goal. Demonstrate M240D machine gun employment in the night environment.

Requirements

Discuss
Safety considerations associated with ordnance evolutions during night time operations
Penetration checklist procedures
Aircraft Survival Equipment (ASE)
Sensor integration
Ordnance effects using NVDs during NS operations

Introduce
Weapons employment during NS operations
Integration of FLIR to aid in acquiring targets

Review
Weapons Checklist procedures
Crew coordination
Attack profiles
Preflight, post-flight, and usage of Laser Aiming Devices
Laser terminology and operating characteristics

**Performance Standards**
- Demonstrate detailed knowledge of nomenclature and cycle of operation.
- Demonstrate proficiency in all aspects of M240D weapons employment IAW crew served weapons employment table.
- Demonstrate proper jam clearing and troubleshooting techniques while on NVDs IAW checklist procedures.

**Prerequisites.** 2403, 2606, TERFQ

**Ordnance.** 600 rounds 7.62mm

**Range Requirement.** Aerial gunnery range

**Crew.** NSI/CCUI or AOUI

**SWD-2611 2.0 180 B.R,SC,M NS A 2 1 UH-1Y & 1 H-1**

**Goal.** Demonstrate GAU-21 .50 caliber machine gun employment in the night environment.

**Requirements**

**Discuss**
- Safety considerations associated with ordnance evolutions during night time operations
- Penetration checklist procedures
- Aircraft Survival Equipment (ASE)
- Sensor integration
- Ordnance effects on NVDs during NS operations

**Introduce**
- Weapons employment during NS operations
- Integration of FLIR to aid in acquiring targets

**Review**
- Weapons Checklist procedures
- Crew coordination
- Attack profiles
- Preflight, post-flight, and usage of Laser Aiming Devices
- Laser terminology and operating characteristics

**Performance Standards**
- Demonstrate detailed knowledge of nomenclature and cycle of operation.
- Demonstrate proficiency in all aspects of GAU-21 weapons employment IAW crew served weapons employment table.
- Demonstrate proper jam clearing and troubleshooting techniques IAW checklist procedures while using NVDs.

**Prerequisites.** 2403, 2607, TERFQ

**Ordnance.** 600 rounds .50 cal

**Range Requirement.** Aerial gunnery range

**Crew.** NSI/CCUI or AOUI

3.9.6 **Night Systems Qualification Low Light Level (NSQ-LLL)**

**Purpose.** To develop proficiency during LLL operations.

**General.** At the completion of this stage, the CCUI/AOUI shall demonstrate core skills proficiency under LLL conditions.

**AOUI requirements.** 2404, 2102, 2405
Crew Requirement. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

3.9.7 Familiarization (FAM)

Purpose To develop and maintain familiarity with aircraft flight characteristics, limitations, and emergency procedures. To develop proficiency in all maneuvers, instrument flight and to instill basic CRM procedures.

General PUI must demonstrate proficiency with all shore based FAM procedures to include normal/emergency procedures and basic aircraft maneuvers. Additionally, the PUI must display a thorough knowledge of limitations and flight characteristics.

AOUI requirements. 2800

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW the MAWTS-1 UH-1 Course Catalog.

FAM-2800 1.5 * B (NS) A 1 UH-1Y

Goal. Familiarization/Instrument flight proficiency.

Requirements

Discuss
- Startup Procedures
- Emergency Procedures
- Cabin Security
- ICS procedures
- CRM
- Basic systems knowledge

Introduce/Demonstrate
- Demonstrate safe flight operations IAW NATOPS procedures
- Utilize standardized terminology
- Demonstrate the ability to use CRM to assist crew in FAM/INST operations

Review
- Lookout doctrine
- CRM
- Standardized terminology
- Aircraft limitations

Performance Standards
- Safely conduct startup and shut down procedures IAW NATOPS.
- Utilize CRM and standard terminology while safely conducting FAM/INST or FERRY.

Prerequisite. 1901

Crew. TERFI(NSI)/CCUI or AOUI

Note For those aircrew assigned to the Refresher and Series Conversion POI. If CIX-1901 has been flown within the preceding 90 days, they meet the Performance Standards of FAM-2800. Manual entry, i.e. baseline in M-SHARP with proficiency date of CIX-1901.

3.10 MISSION PHASE (3000)

Purpose To produce a mission skill proficient CC/AO. Upon completion of the Mission Phase aircrew shall be Mission Skill Proficient in all Mission Essential Tasks.
General Upon completion of this phase, the aircrew will be ESC, CAT, AD, and CAS complete and may conduct additional missions as specified by the squadron commander.

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### 3.11 MISSION STAGES

#### 3.11.1 Academics (ACAD)

**Purpose**

To develop a Mission Skill proficient Crew Chief or Aerial Observer. These academics facilitate understanding of operations in the UH-1Y and MAGTF level functions to ensure individuals possess the requisite knowledge to perform crewmember functions in those Mission Skills.

**General**

These academics are intended to be an integrated series of academic lectures contained within each phase of training. Accordingly, academic events are like any other event in that they serve as prerequisites to selected flight events or stages. Completion of the academic events in conjunction with the Mission Skill flight phase meets the requirements for the CCUI/AOUI to be proficient in those specific mission skills. The lectures are contained in the MAWTS-1 Enlisted Aircrew Academic Support Package. The codes associated with these academic requirements do not require EATFs. At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the EATM. The codes below are for lectures only; readings and guided discussions are NOT included and are contained only in the course catalog. Reference the current UH-1Y Course Catalog for the most recent academic requirements.

Mission Skill academic events are listed below.

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#### 3.11.2 Escort (ESC)

**Purpose**

To develop proficiency in prescribed airborne and surface escort formations and maneuvers.

**General**

The CCUI/AOUI will develop a detailed understanding and functional knowledge of escort formations, maneuvers and techniques associated with Combat Assault Transport and surface operations.

**AOUI requirements** ESC-3100, 3101 and 3103

**Crew Requirement** As listed at the end of each event.

**Ground/Academic Training** IAW the MAWTS-1 UH-1 Course Catalog.
Goal: Introduce day Combat Assault Transport escort procedures.

**Requirements**

**Discuss**
- Purpose of escort
- Responsibilities of escort and assault aircraft
- Sectors of fire
- Winter/devil criteria
- Types of escort
- Six missions of Combat Assault Transport escort

**Introduce**
- Escort formations
- Techniques and responsibilities per Tactical doctrine for escort

**Review**
- Lookout doctrine
- Sectors of fire

**Performance Standards**
- Demonstrate the ability to conduct escort operations.
  - If ordnance is utilized, safe and effective employment of applicable weapon IAW crew served system weapons employment table.

**Prerequisite**
- 3050, 2100, 2300, 2402 (2601, 2602 or 2603–ORD, based on configuration)

**Ordnance**
- Optional. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

**Range Requirement**
- Aerial gunnery range (if required)

**External Syllabus Support**
- One or more Combat Assault Transport aircraft

**Crew**
- AGI/CCUI or AOUI

---

Goal: Introduce night Combat Assault Transport escort.

**Requirements**

**Discuss**
- Night LZ clearance/coverage techniques and procedures
- Responsibilities of escort and assault aircraft
- Types of escort in relation to threat levels
- Route reconnaissance

**Introduce**
- Night helicopter escort procedures
- Threat counter tactics in defense of the assault aircraft

**Review**
- Lookout doctrine
- Sectors of fire
- Responsibilities of escort and assault aircraft

**Performance Standards**
- Demonstrate the ability to conduct escort operations in the night environment.
  - If ordnance is utilized, safe and effective employment of applicable weapon IAW crew served system
NAVMC 3500.20D
24 Nov 21

... weapons employment table.
Prerequisites 3100, 2403, NSQ HLL (2605, 2606 or 2607~NS, 2609, 2610 or 2611~LLL ORD based on configuration)
Ordnance Optional. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.
Range Requirement Aerial gunnery range (if required)
External Syllabus Support One or more Combat Assault Transport aircraft
Crew NSI/CCUI or AOUI

ESC-3103 1.5 485 B,R (NS) A 2 1 UH-1Y & 1 H-1

Goal Introduce surface force support/escort operations.
Requirements
Discuss
Purpose of surface escort
Responsibilities of escort aircraft
Sectors of fire/fragmentation patterns
Route reconnaissance procedures
Types of escort
Tactics, techniques, and procedures of surface forces
Friendly marking techniques and procedures
Threat systems and counter-tactics
Attack briefs
Sensor integration
Gridded Reference Graphic (GRG)
Target correlation
Rules of Engagement (ROE)/Positive Identification (PID)
Collateral Damage Estimate (CDE)
Introduce
Route coverage patterns
Actions in the objective area
Ordnance delivery geometry, techniques, and procedures in support of surface forces
Techniques and responsibilities per tactical doctrine for escort
Review
Lookout doctrine
Sectors of fire

Performance Standards
Exhibit a thorough understanding of surface force escort responsibilities in support of the GCE scheme of maneuver.
If ordnance is utilized, safe and effective employment of applicable weapon system IAW crew served system weapons employment table.

Prerequisite 3050, 2100, 2300, 2402 (2601, 2602 or 2603–DAY ORD based on configuration), NSQ HLL, 2403–NS (2605, 2606 or 2607–NS, 2609, 2610 or 2611–LLL ORD based on configuration)
Ordnance Optional. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.
Range Requirement Aerial gunnery range (if required)
External Syllabus Support One surface Ground Combat Element
Crew AGI (NSI)/CCUI or AOUI

3.11.3 Combat Assault Transport (CAT)
Purpose To develop procedures and skills to tactically employ the UH-1Y, while conducting a variety of Combat Assault Transport missions.
General
Upon the completion CAT event the CCUI/AOUI will be MISSION SKILLS proficient for CAT.
Prior to conducting HRST, a face-to-face brief with the HRST Master is required.
Actual ordnance for crew served weapons should be incorporated to the maximum extent practical.

AOUI requirement 3200, 3203

Crew Requirements As listed at the end of each event.

Ground/Academic Training IAW MAWTS-1 UH-1 Course Catalog.

**GCAT-3200** 1.0 * B (N) G 1 UH-1Y

Goal  Familiarize aircrew with the utility configurations, planning factors, and tactical loading and unloading of cargo and passengers on a static UH-1Y.

Requirements

**Discuss**
- Cabin configuration management
- Aircraft Combat Assault Transport configuration considerations
- Combat Assault Transport mission specific kits
- Alternate Restraint Anchor System
- Combat resupply planning configuration
- Internal transport of cargo
- On/Off drills and rehearsals
- PZ operations
- Cargo lifting devices
- Helicopter Support team (HST)
- External cargo safety considerations
- TFOA avoidance
- Escort requirements
- Signal plan
- Manifest procedures
- Aircraft MACO markings
- Accountability procedures
- Required communication
- Crew/passenger hand and arm signals

**Introduce**
- Load and unload a static UH-1Y with airworthy combat cargo configurations
- Passenger securing procedures and checks
- Passenger briefing requirements
- On/Off drills

**Review**
- Aircraft configuration
- Actions on contact

**Performance standards**
- CCUI shall brief UH-1Y cargo and passenger loading and unloading procedures.
- CCUI shall load and unload cargo and passengers in an efficient and airworthy manner.

**Prerequisites:** 2060, 2061, 3054

**Ordnance:** Configured with weapons (no ordnance)

**External Syllabus Support:** Troops embarked (6 preferred) and actual cargo

**Crew:** WTI/CCUI or AOUI
Goal. Develop proficiency in tactical fast rope operations.

Requirements

Discuss
Configuration
Passenger briefing considerations
Fast rope profiles
Cabin management
Gunner threat reaction
HRST master briefing requirements
HRST manual/applicable local orders

Introduce
Fast rope gantry installation
Fast rope profiles
Communication procedures
Rope release procedures
HRST briefing

Review Passenger briefing

Performance Standards
Display proper crew coordination and communications IAW UH-1 NTTP.
Display the ability to safely perform fast rope operations.

Prerequisites 2060, 2061, 2402, 3200

Range Requirements Simulated/Actual rooftop or landing point. (authorized fast rope site)

External Syllabus Support HRST Master and at least two ropers

Crew TERFI/CCUI

Goal Develop proficiency in tactical fast rope operations at night.

Requirements

Discuss
Aircrew/HRST master coordination using NVDs
Aircraft and roper emergencies using NVDs
Passenger briefing considerations
Fast rope profiles
Cabin management
Gunner threat reaction
HRST master briefing requirements
HRST manual/applicable local orders

Review Fast rope gantry installation
Fast rope profiles
Communication procedures
Rope release procedures
HRST briefing

Performance Standards
Display proper crew coordination and communications IAW UH-1 NTTP.
Display the ability to safely perform fast rope operations using NVDs.

Prerequisites 3201, 2403. NSQ-HLL, NSQ-LLL
Range Requirements  Simulated/Actual rooftop or landing point. (authorized fast rope site)

External Syllabus Support  HRST Master and at least two ropers

Crew  NSI/CCUI

CAT-3203 1.5 365 B,R,SC,M (NS) A 2 UH-1Y

Goal  Demonstrate proficiency of crewmember responsibilities during a tactical CAT mission while employing crew served weapons.

Requirements  
Discus:
- Crewmember responsibilities in a tactical environment
- Threat profiles and counter-tactics
- METT-TSL considerations
- Aircraft Survivability Equipment (ASE)
- Sensor integration
- Sectors of fire/Field of fire

Introduce:
- Threat counter-tactics and profiles
- Considerations of delivering ordnance when inserting/extracting troops

Review:
- Tactical approaches/departures
- Section mechanics
- Safety and aircraft limitations
- Terrain/obstacle clearance
- Closure rates and drift

Performance Standards  
- Demonstrate proficiency in all aspects of tactical landings while conducting a minimum of 4 landings.
- Deliver ordnance during a minimum of two landing profile. Safe and effective employment of applicable weapon IAW crew served system weapons employment table.

Prerequisite  3200, 2403, NSQ-LLL (SWD-2601, 2602 or 2603~DAY, SWD-2605, 2606 or 2607~NS, SWD-2609, 2610 or 2611~NS ORD based on configuration)

Ordnance  1,500 rounds 7.62mm GAU-17/A, or 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement  Aerial gunnery range

Crew  AGI(NSI)/CCUI or AOUI

3.11.4  Close Air Support (CAS)

Purpose  To develop procedures and skills to tactically employ the UH-1Y while conducting CAS missions.

General  
Upon completion of this stage the aircrew will have demonstrated the ability to assist in the execution of CAS missions.

Refer to paragraph 3.5.3 for crew served weapons ordnance delivery standards.

AOUI requirement  3301

Crew Requirements  As listed at the end of each event.

Ground/Academic Training  IAW MAWTS-1 UH-1 Course Catalog.
Goal. Develop proficiency in tactical crewmember responsibilities while providing CAS to ground forces.

Requirements

Discuss
- Rules of engagement
- Gridded reference graphic (GRG)
- Objective Area Diagram (OAD)
- CAS Execution Template
- Friendly marking techniques and procedures
- Threat systems and counter-tactics
- ASE utilization
- Airspace Coordination Measures
- Types of Terminal Control
- Crew member responsibilities during CAS

Introduce
- Ordnance considerations and effects in proximity to the forward line of troops
- Attack briefs
- Objective area mechanics
- Sensor integration
- Target correlation
- Tablet/KILSWITCH utilization

Performance Standards
- Display ability to perform a minimum of 4 RW CAS missions utilizing 5-line or 9-line attack briefs.
- Display proficiency in the use of applicable weapon system IAW crew served system weapons employment table.

Prerequisites. 3053, 2405, NSQ-LLL (SWD-2601, 2602 or 2603–DAY, SWD-2605, 2606 or 2607–NS. SWD-2609, 2610 or 2611–NS ORD based on configuration)

Ordnance. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement. Aerial gunnery range

Crew. AGI(NSI)/CCUI or AOUI

Goal. Demonstrate proficiency in tactical crewmember responsibilities while providing CAS to ground forces.

Requirements

Discuss
- Rules of engagement
- Friendly marking techniques and procedures
- Threat systems and counter-tactics
- ASE utilization
- Airspace Coordination Measures
- Fire Support Coordination Measures
- Types of Terminal Control
- Crew member responsibilities during CAS
- Battle Tracking

Introduce
- Ordnance considerations and effects in proximity to the forward line of troops
- Objective area mechanics
- Sensor integration
- Target correlation
- Combined Attacks
Review
Objective Area Diagram (OAD)
Gridded reference graphic (GRG)
Attack briefs
CAS Execution Template
Tablet/KILSWITCH utilization

Performance Standards
Display ability to perform a minimum of 4 RW CAS missions utilizing 5-line or 9-line attack briefs.
Display proficiency in the use of applicable weapon system IAW crew served system weapons employment table.
Demonstrate ability to perform basic functions in relation to plotting and correlation of attack briefs on tablet/KILSWITCH, if available.

Prerequisites. 3301, (SWD-2601, 2602 or 2603−DAY, SWD-2605, 2606 or 2607−NS. SWD-2609, 2610 or 2611−LLL ORD based on configuration)

Ordnance. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement. Aerial gunnery range

Crew. AGI(NSI)/CCUI

3.11.5 Forward Air Controller (Airborne) [FAC(A)]

Purpose. To familiarize the aircrew with responsibilities and communication required to assist pilots while conducting FAC(A).

General. At the completion of this stage, the CCUI/AOUI will have an increased knowledge of CAS and FAC(A) procedures used to control RW/FW aircraft and supporting arms under varied environmental and threat conditions.

Ordnance is optional for this stage of training. However, it is strongly recommended. If ordnance is utilized the aircrew shall have completed the SWD flight corresponding to the ordnance load. Refer to paragraph 3.5.3 for crew served weapons ordnance delivery standards.

AOUI requirement. Not Required

Crew Requirements. As listed at the end of each event.

Ground/Academic Training. IAW MAWTS-1 UH-1 Course Catalog.

FAC(A)-3400 2.0 365 B,R,M (NS) A 1 UH-1Y

Goal. Develop proficiency in tactical crewmember responsibilities while conducting FAC(A).

Requirements
Discuss
CAS Execution Template
CAS aircraft capabilities
Weapons to target matching
Types of Terminal Control
Friendly marking techniques and procedures
Airspace Coordination Measures
SEAD procedures
Task sharing in the FAC(A) environment
FAC(A) terminology
Attack geometry verification

Review
Objective area mechanics
Attack briefs
Sensor integration
FAC(A) terminology
Target correlation

Performance Standards
Display the ability to assist the pilots in task sharing during FAC(A) controls.
CCUI must be present in the controlling aircraft that is providing FAC(A) controls.
If flown with ordnance, display proficiency in the use of applicable weapon system IAW crew served system weapons employment table.

Prerequisites  3053, 3301 (2601, 2602, or 2603–DAY, 2605, 2606, or 2607–NS, 2609, 2610, or 2611–NS ORD based on configuration)

Ordnance  Optional. 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement  Aerial gunnery range

External Syllabus Support  One CAS aircraft

Crew  AGI(NSI)/CCUI

3.12  CORE PLUS PHASE (4000)

Purpose  To certify the CCUI/AOUI in large scale integrated mission events having unique mission tasking, a low probability of execution in combat, are theater specific, and/or are relatively high-threat events.

General: Upon completion of each individual stage, the CCUI/AOUI will be considered Core Plus/Mission Plus proficient in that stage.

Completion of DACM-4302 meets the requirements for the CCUI/AOUI to be RWDACM qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as RWDACM qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of DACM-4305 meets the requirements for the CCUI/AOUI to be FWDACM qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as FWDACM qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of CBRN-4400 meets the requirements for the CCUI/AOUI to be CBRN qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as CBRN qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of CQ-4603 meets the requirement for the CCUI/AOUI to be Day CQ qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as Day CQ qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of CQ-4604 meets the requirement for the CCUI/AOUI to be NVD CQ qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as NVD CQ qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of CQ-4605 meets the requirement for the CCUI/AOUI to be Unaided CQ qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as Unaided CQ qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Core Plus Stages

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3.13 CORE PLUS STAGES

3.13.1 Academics (ACAD)

**Purpose:** To develop a Core Plus Skill complete Crew Chief or Aerial Observer. These academics facilitate understanding of high threat operations in the UH-1Y and MAGTF/Joint level functions to ensure individuals possess the requisite knowledge to execute unique mission tasking, events having a low probability of execution in combat, are theater specific, and/or are high-risk events.

**General:** These academics are intended to be an integrated series of academic lectures contained within each phase of training. Accordingly, academic events are like any other event in that they serve as prerequisites to selected flight events or stages.

Completion of these academics and accompanying Core Plus/Mission Plus flights meet the requirements for the Crew Chief or Aerial Observer to be proficient in those specific Core Plus/Mission Plus missions.

The lectures are contained in the MAWTS-1 Enlisted Aircrew Academic Support Package. The codes associated with these academic requirements do not require EATFs. At the completion of each ACAD event, the appropriate training code shall be logged in M-SHARP by the EATM. The codes below are for lectures only; readings and guided discussions are NOT included and are contained only in the course catalog. Reference the current UH-1Y Course Catalog for the most recent academic requirements.

Core Skill academic events are listed below:

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3.13.2 Air Delivery (AD)

**Purpose** To develop procedures and skills to tactically employ the UH-1Y while conducting aerial delivery.

**General** Upon completion of the AD stage, the crew chief will be Mission Skills Proficient for AD.

**AOUI requirement** Not required

**Crew Requirements** As listed at the end of each event.

**Ground/Academic Training** IAW MAWTS-1 UH-1 Course Catalog.

**AD-4109** 1.0 730 B,R,SC,M (NS) A 1 UH-1Y

**Goal** Conduct tactical external cargo procedures.

**Requirements**

**Discuss**
- Aircrew coordination
- Hand and arm signals
- ICS terminology
- Hook limitations/malfunctions
- Load release
- Emergency procedures

**Review**
- Operational check of cargo hook
- Cargo hook pendant and manual release
- Emergency procedures for external operations
- Review TERF profiles

**Performance standards**
- Demonstrate proper ICS terminology, hook operation and installation.
Perform at least two hook-up, flight and release operations for cargo hook.

**Prerequisite** 2100, 2400, (NSQ-HLL~NS, NSQ-LLL~LLL)

**External Syllabus Support** Appropriate external load

**Crew**TERFI (NSI)/CCUI

3.13.3 Combat Assault Transport (CAT)

**Purpose** To develop the ability to perform specialized Combat Assault Transport missions.

**General** Upon completion of each event the aircrew will be considered capable of performing that particular mission.

**AOUI requirement** CAT-4106

**Crew Requirement** As listed at the end of each event.

**Ground/Academic Training** IAW MAWTS-1 UH-1 Course Catalog.

**CAT-4106** 2.0 365 B,R,M (NS) A 1 UH-1Y

**Goal** Introduce Mountain Area Training.

**Requirements**

**Discuss**
- Tactical approaches, landings, and departures
- High altitude operations
- HIE operations
- Loss of tail rotor effectiveness
- Brown/White out considerations
- Terrain/obstacle clearance
- Turbulence
- Orographic lifting and downdrafts

**Introduce**
- Tactical approaches, landings, and departures
- High altitude operations
- HIE terminology and operations

**Performance Standards**
- Demonstrate the ability to assist pilots in operating in mountainous areas while performing a minimum of 5 mountain area landings and 2 fast rope profiles.
- Demonstrate proper crew coordination, ICS terminology and terrain clearance while operating in a mountainous environment.

**Prerequisites** 2402 (NSQ-HLL~NS, NSQ-LLL~LLL)

**Crew**TERFI (NSI)/CCUI or AOUI

3.13.4 Close Air Support (CAS)

**CAS-4203** 1.5 365 B,R,M (NS) A 2 H-1

**Goal** Refine CAS procedures in an urban environment.

**Requirements**

**Discuss**
- Urban terrain considerations
- Altitude considerations for weapons and visual reference
- Weapon selection
- ROE/PID
- Collateral Damage Estimate(CDE)
Gridded Reference Graphic (GRG)
Urban threat considerations

Review
GRG usage
Sensor integration
Target correlation

Performance Standards
Display ability to perform aircrew responsibilities in a tactical urban environment.
If flown with ordnance, display proficiency in the use of applicable weapon system IAW crew served
system weapons employment table.
Display ability to utilize gridded reference graphic (GRG) to enhance aircrew situational awareness.

Prerequisites
3053, 3303 (2601, 2602, or 2603–DAY, 2605, 2606, or 2607–NS, 2609, 2610, or 2611–LLL ORD based
on configuration)

Ordnance 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21.

Range Requirement  Aerial gunnery range

External Syllabus Support JTAC with appropriate marking devices (if available), suitable urban environment or
MOUT facility.

Crew AGI(NS)/CCUI 3.1.5

Defensive Air Combat Maneuvering (DACM)

Purpose To demonstrate and introduce DACM and to qualify the CCUI/AOUI as RWDACM and FWDACM
complete.

General
At the completion of this stage, the CCUI/AOUI will be proficient in the conduct of the DACM and have a
thorough knowledge of weapons employment, aircraft control, and threat tactics of RW and FW
adversaries.

Refer to paragraph 3.5.3 for crew served weapons ordnance delivery standards.

AOUI requirements 4300 through 4305

Crew Requirement As listed at the end of each event. All participants must be TERF Qualified.

Ground/Academic Training IAW MAWTS-1 UH-1 Course Catalog.

DACM-4300 1.5 485 B,R,M (NS) A 1 UH-1Y

Goal Introduce moving target aerial gunnery.

Requirements
Discuss
Weapons capabilities/limitations
Range and lead/lag estimation
Aerial ballistics
Aircrew coordination
Time of flight (TOF)

Introduce
AAG using shadow gunnery or Moving Land Target (MLT)
Aircrew coordination during moving target engagements
Range and lead/lag estimation

Review
Fundamentals of aerial gunnery
Appropriate weapon system characteristics

Performance Standards
- Demonstrate detailed knowledge of nomenclature, cycle of operation and SWD.
- Demonstrate the ability to safely and effectively employ crew served weapons against moving targets IAW crew served system weapons employment table.

Prerequisites
- (2601, 2602 or 2603–DAY, SWD-2605, 2606 or 2607–NS, SWD-2609, 2610 or 2611–LLL ORD based on configuration)

Ordnance
- 1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm, M240D, or 600 rounds .50 cal GAU-21.

Range Requirement
- Aerial gunnery range or MLT range
- AGI(NSI)/CCUI or AOUI

DACM-4301 1.0 * B,SC D A 1 UH-1Y

Goal
- Introduce 1 v 1 RWDACM.

Requirements
- Discuss
  - Aircraft limitations
  - Rotary wing threat aircraft capabilities/limitations
  - Standard DACM terminology
  - Aircrew coordination
  - P, V, E-M diagrams
  - Line numbers/DACM training rules
- Introduce
  - Basic defensive maneuvers against RW threats
  - lookout procedures and identification of aircraft
  - Range estimation/optimal engagement distances
  - Standard DACM terminology
  - Line numbers
- Review
  - Fundamentals of aerial gunnery
  - Time of flight (TOF)/aerial ballistics

Performance Standards
- Conduct one complete line number sequence (from both friendly and adversary roles).
- Execute proper reactions to RW threat attacks.

Prerequisites
- 4050, 4051, TERFQ, 2402

Ordnance
- Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA.

External Syllabus Support
- One adversary helicopter and appropriate air-to-air training area
- DACMI/CCUI or AOUI

DACM-4302 1.0 485 B,R,M D A 2 H-1

Goal
- Introduce 2 v 1 RWDACM.

Requirements
- Discuss
  - Standard DACM terminology
  - Mutual support
  - Aircrew coordination
  - Line numbers/DACM training rules
  - Free and engaged roles and responsibilities
**Introduce**
- Basic defensive maneuvers
- Section mechanics
- Free and engaged roles

**Review**
- Fundamentals of aerial gunnery
- Time of flight (TOF)/aerial ballistics
- Basic defensive maneuvers
- Lookout procedures and identification of aircraft
- Range estimation/optimal engagement distances
- Standard DACM terminology

**Performance Standards**
- Conduct one complete line number sequence (from both friendly and adversary roles).
- Execute proper reactions to RW threat attacks.

**Prerequisite**  4301

**Ordnance** Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA.

**External Syllabus Support** One adversary helicopter and appropriate air-to-air training area

**Crew** DACMI/CCUI or AOUI

**DACM-4304**  1.0  *  B  

**Goal** Introduce 1 v 1 FW DACM.

**Requirement**

**Discuss**
- Aircraft limitations
- Lookout procedures and identification of aircraft
- FW threat aircraft capabilities/limitations
- Line numbers/DACM rules
- Standard terminology
- Aircrew coordination
- \( P_v, V_c, E-M \) diagrams

**Introduce**
- Basic defensive maneuvers against FW threats
- Lookout procedures and identification of aircraft
- Range estimation/optimal engagement distances
- Standard terminology
- Line numbers

**Review**
- Fundamentals of aerial gunnery
- Time of flight (TOF)/aerial ballistics

**Performance Standards**
- Conduct a minimum of one (1) line number sequence.
- Execute proper reactions to FW threat attacks.

**Prerequisites**  4050, 4052, TERFQ, 2402

**Ordnance** Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA.

**External Syllabus Support** One FW adversary and appropriate air-to-air training area

**Crew** DACMI/CCUI or AOUI
Goal: Introduce 2 v 2 FWDACM.

Requirements:

Discuss:
- Standard DACM terminology
- Mutual support
- Aircrew coordination
- Line numbers/DACM training rules
- Free and engaged roles and responsibilities

Introduce:
- Basic defensive maneuvers
- Section mechanics
- Free and engaged roles

Review:
- Fundamentals of aerial gunnery
- Time of flight (TOF)/aerial ballistics
- Basic defensive maneuvers
- Lookout procedures and identification of aircraft
- Range estimation/optimal engagement distances
- Standard DACM terminology

Performance Standards:
- Conduct a minimum of one (1) line number sequence.
- Execute proper reactions to FW threat attacks.

Prerequisite: 4304

Ordnance: Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA.

External Syllabus Support: Two FW adversary and appropriate air-to-air training area

Crew: DACMI/CCUI or AOUI

3.13.6 Chemical, Biological, Radiological and Nuclear warfare (CBRN)

Purpose: To introduce the CCUI/AOUI to operations while wearing the aviator's CBR protective mask.

General: This event is designed to expand the capabilities of the aircrew in CBRN operations.

AOUI requirement: 4400

Crew Requirement: As listed at the end of each event.

Ground/Academic Training:
- Review appropriate section of UH-1Y NTRP for information on the aviator’s CBR protective mask prior to flight.
- The crewmember will complete protective mask familiarization lecture and aircraft egress with mask.
- Discuss capabilities and disadvantages of CBR protective mask, to include protective mask emergency procedures. Review all MOPP conditions.

Goal: CBR protective mask introduction.

Requirements:

Discuss:
- Protective mask introduction
- Physiological effects
- Operating in an CBRN environment
- Emergency egress
Battery failure
NVD considerations

Introduce Conduct FAM maneuvers while wearing the protective mask.

Performance Standards Demonstrate the ability to perform aircrew responsibilities in the CBRN environment while wearing the protective mask.

Prerequisite 2400
Crew TERFI/CCUI or AOUI

3.14 MISSION PLUS PHASE

Mission Plus Stages

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3.15 MISSION PLUS STAGES

3.15.1 Rapid Insertion/Extraction (RIE)

Purpose To develop the ability to perform specialized Rapid Insertion/Extraction missions.

General Upon completion of each event the aircrew will be considered capable of performing that particular mission.

Prior to conducting HIE a face-to-face brief with the HRST/Helocast/Jump Master is required.

Initial Basic and Transition flight events shall be flown under day conditions.

AOUI requirement Not required
Crew Requirement As listed at the end of each event.
Ground/Academic Training IAW MAWTS-1 UH-1 Course Catalog.

RIE-4100 1.0 * B (NS) A 1 UH-1

Goal Introduce techniques for paradrop operations.

Requirements

Discuss Aircraft rigging for static line operations
Aircraft rigging for free fall operations
Insertion techniques
Aircrew coordination
Hung jumper emergency procedures
Altitude,airspeed and weather restrictions

Introduce Delivery profiles
Static line retrieval
Crew/Jump Master coordination
Aircraft rigging procedures

Review Passenger briefing

Performance Standards Display proper crew coordination and ability to safely perform paradrop operations.

Prerequisites 2402(NSQ-HLL~NS, NSQ-LLL~LLL), 3200

Range Requirement Drop Zone or authorized paraops area
External Syllabus Support = Jump Master and two jumpers (Jump master may be one of the jumpers)

Crew  TERFI (NSI)/CCUI

RIF-4101  1.0  B  (NS)  A  1  UH-1Y

Goal  Introduce techniques for water insertion.

Requirements

Discuss
Aircraft rigging for helocast operations
Insertion techniques
Aircrew coordination
Altitude, airspeed, and sea state restrictions
Emergency procedures

Introduce
Delivery profiles
Crew/Helocast Master coordination
Aircraft rigging procedures

Review
Passenger briefing

Performance Standards  Display proper crew coordination and the ability to safely perform helocast operations.

Prerequisites  2402(NSQ-HLL~NS, NSQ-LLL~LLL), 3200

Range Requirement  Water drop zone or authorized helocast area

External Syllabus Support  Helocast Master and two swimmers (Helocast Master may be one of the swimmers)

Crew  TERFI (NSI)/CCUI

RIF-4103  1.5  365  B,R,M  (NS)  A  1  UH-1Y

Goal  Introduce techniques for insertion/extraction using the Special Patrol Insertion/Extraction (SPIE) rig or Jacob’s Ladder.

Requirements

Discuss
Aircraft rigging SPIE operations
Aircraft rigging for Jacob’s ladder operations
Insertion/extraction techniques
Aircrew coordination
Altitude, airspeed, and weather restrictions
“Cut Rope” and emergency procedures

Introduce
Insert/extract profiles
Crew/HRST Master coordination
Aircraft rigging procedures

Review
Passenger briefing

Performance Standards  Display proper crew coordination and the ability to safely perform SPIE or Jacob’s Ladder operations.

Prerequisites  2402 (NSQ-HLL~NS, NSQ-LLL~LLL), 3200

Range Requirement  Drop zone/landing zone or authorized SPIE area

External Syllabus Support  HRST Master and two ropers
Crew TERFI (NSI)/CCUI

<table>
<thead>
<tr>
<th>RIF-4104</th>
<th>1.0</th>
<th>365</th>
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</table>

**Goal** Perform hoist procedures.

**Requirements**

**Discuss**
- Aircrew coordination
- Hand and arm signals
- ICS terminology
- Hoist limitations/malfunctions
- Emergency procedures
- Chicago grip, quick splice, and cable cutters
- Operational check of hoist

**Review**
- Use of rescue strop and jungle penetrator
- Emergency procedures for rescue hoist

**Performance standards**
- Demonstrate proper ICS terminology, hoist operation and installation.
- Perform four hoisting operations using a suitable weight.

**Prerequisite** 2402(NSQ-HLL~NS, NSQ-LLL~LLL), 3200

**External Syllabus Support** Hoist.

Crew TERFI (NSI)/CCUI

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<tr>
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<th>1.0</th>
<th>365</th>
<th>B,R,M</th>
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**Goal** Introduce techniques for insertion using rappel.

**Requirements**

**Discuss**
- Aircraft rigging
- Insertion techniques
- Aircrew/HRST master coordination
- Aircraft and roper emergencies

**Introduce**
- Aircraft preparation for rappel
- Rappel profiles
- Communication procedures
- “Cut Rope” procedures
- HRST briefing

**Review**
- Passenger briefing

**Performance Standards**
- Display proper crew coordination and communications IAW UH-1 NTTP.
- Display the ability to safely perform rappel operations.

**Prerequisite** 2402(NSQ-HLL~NS, NSQ-LLL~LLL), 3200

**External Syllabus Support** HRST Master and at least two ropers

Crew TERFI (NSI)/CCUI
3.15.2 Sea-Based Expeditionary Operations (SEA)

Purpose To introduce day and night flight operations from a carrier deck or air capable ship.

General
IAW applicable directives, CCUI/AOUI will emphasize proper communication procedures, patterns, and aviation operations in the shipboard environment.
Refer to appropriate NATOPS and appropriate shipboard NATOPS Manuals for carrier operations.
CCUI/AOUI shall complete the FCLP stage prior to commencing the CQ stage.
Initial Night Systems Carrier Qualification training shall be accomplished under High Light Level conditions.
Requalification and proficiency training may be accomplished under any light level condition.
Once complete with each stage the CC/AO may be Day CQ, Night CQ or NVD CQ (as appropriate) in writing at the discretion of the commanding officer.

AOUI requirements 4601 through 4605

Crew Requirement As listed at the end of each event.

Ground/Academic Training IAW the MAWTS-1 UH-1 Course Catalog. Review required equipment for shipboard/over-water operations.

**SEA-4601**

| 1.0 | 365 | B.R | D | A | 1 | UH-1Y |

Goal Introduce day FCLP operations.

Requirements

Discuss
Types of air capable ships
Shipboard specific crew coordination
LSE signals
Emergency and ditching procedures
Wind limitation charts
Shipboard terminology
Alpha, Delta, and Charlie patterns
High wind start procedures
Hazards of Electromagnetic Radiation to Ordnance (HERO) conditions
Passenger procedures for shipboard operations

Introduce
Shipboard patterns
Closure rate
Proper ICS/Radio terminology
Landing procedures to an FCLP pad
High wind start procedures

Review
Ditching procedures
Required personal and aircraft survival equipment

Performance Standards
Perform a high wind start.
Conduct a minimum of 5 day FCLP landings per the UH-1Y NATOPS and shipboard NATOPS manuals.

Prerequisite 1901

External Syllabus Support FCLP pad

Crew TERFI/CCUI or AOUI
Goal  Introduce night and NVD FCLP operations.

Requirements  
 Discuss  
 Night unaided and NVG shipboard lighting  
 Night unaided and NVG safety considerations  
 Aircraft lighting configurations  
 Night unaided and NVG flight over open water  
 Physiological effects with no horizon  
 Introduce  
 Night unaided/NVD patterns  
 Closure rate and decent rates  
 Landing procedures to an FCLP pad  
 Review  
 Ditching procedures  
 Required personal and aircraft survival equipment  
 Alpha, Delta and Charlie patterns  
 Air capable ships  
 Shipboard specific crew coordination  
 LSE signals  
 Shipboard terminology  
 Proper ICS/Radio terminology  
 Performance Standards  Conduct a minimum of 5 unaided and 5 NVD landings IAW the UH-1Y NATOPS and shipboard NATOPS manuals  
 Prerequisite  4601  
 External Syllabus Support  FCLP pad with shipboard lighting  
 Crew  NSI/CCUI or AOUI

Goal  Conduct day shipboard landing qualification.

Requirements  
 Discuss  
 Shipboard safety equipment location and marking  
 Requirements for carrying PAX over water  
 Introduce  
 Shipboard patterns  
 Closure rate  
 Proper ICS/Radio terminology  
 Flight deck procedures  
 Review  
 Air capable ships  
 Shipboard specific crew coordination  
 LSE signals  
 Emergency and ditching procedures  
 Wind limitation charts  
 Shipboard terminology  
 Alpha, Delta and Charlie patterns  
 Hazards of Electromagnetic Radiation to Ordnance (HERO) conditions  
 Performance Standards  Demonstrate the ability to conduct daytime shipboard operations per the UH-1Y NATOPS and shipboard NATOPS manuals.
Demonstrate the ability to conduct a minimum of 5 CQ landings.
Demonstrate the ability to conduct a rotor brake start.
Demonstrate the ability to conduct shipboard refueling.

Prerequisite 4601, TERFQ

External Syllabus Support Landing pIEATForm afloat

Crew TERFI/CCUI or AOUI

Goal Conduct NVD shipboard landing qualification.

Requirements

Discuss NVG shipboard lighting
Introduce Closure rate and decent rates
Review NVG safety considerations
Aircraft lighting configurations
NVG flight over open water
Physiological effects with no horizon

Performance Standards

Demonstrate the ability to conduct NVD shipboard operations per the UH-1Y NATOPS and shipboard NATOPS manuals.
Demonstrate the ability to conduct a minimum of 5 CQ landings.
Demonstrate the ability to conduct shipboard refueling.

Prerequisite 4602, 4603, NSQ-HLL

External Syllabus Support Landing pIEATForm afloat

Crew NSI/CCUI or AOUI

Goal Conduct night unaided shipboard landing qualification.

Requirements

Discuss Night unaided shipboard lighting
Night unaided safety considerations
Aircraft lighting configurations

Review Ditching procedures
Required personal and aircraft survival equipment
Alpha, Delta, and Charlie patterns
Air capable ships
Shipboard specific crew coordination
LSE signals
Shipboard terminology
Proper ICS/Radio terminology

Performance Standards

Demonstrate the ability to conduct night unaided shipboard operations per the UH-1Y NATOPS and shipboard NATOPS manuals.
Demonstrate the ability to conduct a minimum of 5 CQ landings.

Prerequisite 4602, 4603, NSQ-HLL
3.16 INSTRUCTOR TRAINING PHASE (5000)

Purpose  To develop standardized instructor Crew Chiefs with the ability to teach flight skills and knowledge necessary to qualify/designate Crew Chiefs IAW this T&R and the UH-1Y Course Catalog.

General  This Phase only covers the FRSI stage in detail. For other instructor designation syllabi refer to the UH-1Y Course Catalog for execution of those POI's.

Instructor Training Stages

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3.17 INSTRUCTOR TRAINING STAGES. The following stages are included in the Instructor Phase of training.

3.17.1 Terrain Flight Instructor (TERFI)

Purpose  To certify a UH-1 Crew Chief as a Terrain Flight Instructor (TERFI) capable of safely and effectively conducting ground academic and day time airborne instruction of TERF, NAV, CAT, CQ's, FORM, Externals and CBRN.

TERF-5100  1.5  *  B  (NS)  A  1  UH-1Y

Requirement  Reference the current UH-1Y Course Catalog for the TERFI POI.

TERF-5101  1.5  *  B.R  (NS)  A  2  H-1

Requirement  Reference the current UH-1Y Course Catalog for the TERFI POI.

3.17.2 Fleet Replacement Squadron Instructor (FRSI)

Purpose  To certify the IUT as a Fleet Replacement Squadron Instructor capable of instructing 1000 level events.

General  Upon completion of the Fleet Replacement Squadron Instructor (FRSI) stage, the FRSIUT may be designated a FRSI by the FRS squadron commanding officer.

A letter designating the CC as a FRSI shall be placed in the NATOPS jacket and an entry made in the flight log book.

The FRSIUT shall be a TERFI, AGI GAU-21, AGI GAU-17/A, AGI M240D, and NSQ-LLL prior to beginning FRSIUT training.

Crew Requirement  As listed at the end of each event.

Ground Training  FRSIUT stage lecture.

FRSI-5300  2.0  *  B.R  D  A  1  UH-1Y

Goal  FRSIUT will demonstrate techniques of instructing/evaluating normal ground procedures, passenger, and in flight procedures for the Core Skill Introduction phase of training.

Requirements
Review
Standard NATOPS procedures to include hand and arm signals
Aircrew coordination and comfort level

Performance Standards
 Demonstrate instructional techniques to instruct CCUIs in the Core Skill Introduction phase.

Prerequisites
5421, 5431, and 5441 (Triple AGI)

Crew FRSI/FRSIUT

FRSI-5301  2.0 * B,R D A 1 UH-1Y

Goal
 Demonstrate techniques of instructing/evaluating external weight and hoist operations and procedures.

Requirements
Review
 Aircrew coordination
 Lost communication
 ICS terminology
 Lookout doctrine
 Emergency procedures
 Load oscillation and load release.

Performance Standards
 Instruct at least two hookups, flight, and release operations.
 Instruct procedures, signals, and communications for hoist procedures.
 Demonstrate instructional techniques to CCUIs during external weight and hoisting procedures.

Prerequisite
5300

External Syllabus Support
 Appropriate external weight

Crew FRSI/FRSIUT

3.17.3 Aerial Gunner Instructor (AGI)

Purpose
 To certify a UH-1 Crew Chief as an Aerial Gunner Instructor (AGI) capable of safely and effectively conducting ground academic and daytime airborne instruction in the employment of crew served weapons in all aspects of Tactical flight.

AGI-5420  1.5 * B (NS) A 2 H-1

Requirement
Reference the current UH-1Y Course Catalog for the AGI POI

AGI-5421  1.5 * B,R NS A 2 H-1

Requirement
Reference the current UH-1Y Course Catalog for the AGI POI

AGI-5430  1.5 * B (NS) A 2 H-1

Requirement
Reference the current UH-1Y Course Catalog for the AGI POI

AGI-5431  1.5 * B,R NS A 2 H-1

Requirement
Reference the current UH-1Y Course Catalog for the AGI POI

AGI-5440  1.5 * B (NS) A 2 H-1

Requirement
Reference the current UH-1Y Course Catalog for the AGI POI

AGI-5441  1.5 * B,R NS A 2 H-1
Requirement Reference the current UH-1Y Course Catalog for the AGI POI

3.17.4 Night Systems Familiarization Instructor (NSFI)

**Purpose** To certify a UH-1 Fleet Replacement Squadron (FRS) crew chief instructor as a Night Systems Familiarization Instructor (NSFI) capable of safely and effectively conducting ground and airborne instruction of night vision device (NVD) flight during Core Skill Introduction phase under high light level conditions only.

**NSFI-5600** 1.5 * B NS A 1 UH-1Y

Requirement Reference the current UH-1Y Course Catalog for the NSFI POI.

**NSFI-5601** 1.5 * B,R NS A 1 UH-1Y

Requirement Reference the current UH-1Y Course Catalog for the NSFI POI.

3.17.5 Defensive Air Combat Maneuvers Instructor (DACMI)

**Purpose** To certify a UH-1 crew chief or aerial observer as a Rotary Wing Defensive Air Combat Maneuvers Instructor (RW DACMI) and Fixed Wing Defensive Air Combat Maneuvers Instructor (FW DACMI) capable of safely and effectively conducting ground academic and airborne instruction of the UH-1Y DACM flight syllabus.

**DACMI-5800** 1.5 * B D A 1 UH-1Y

Requirement Reference the current UH-1Y Course Catalog for the RW DACMI POI.

**DACMI-5801** 1.5 * B D A 1 UH-1Y

Requirement Reference the current UH-1Y Course Catalog for the FW DACMI POI.

**DACMI-5802** 1.5 * B,R D A 2 1 UH-1Y & 1 H-1

Requirement Reference the current UH-1Y Course Catalog for the RW DACMI POI.

**DACMI-5803** 1.5 * B,R D A 2 1 UH-1Y & 1 H-1

Requirement Reference the current UH-1Y Course Catalog for the FW DACMI POI.

3.17.6 Night Systems Instructor (NSI)

**Purpose** To certify a UH-1 crew chief as a Night Systems Instructor (NSI) capable of safely and effectively conducting ground academic and airborne instruction of the UH-1 Night Vision Device (NVD) flight syllabus.

**NSI-5902** 1.5 * B NS A 2 1 UH-1Y & 1 H-1

Requirement Reference the current UH-1Y Course Catalog for the NSI POI.

**NSI-5904** 1.5 * B NS A 2 1 UH-1Y & 1 H-1

Requirement Reference the current UH-1Y Course Catalog for the NSI POI.

**NSI-5905** 2.0 * B,R NS A 2 1 UH-1Y & 1 H-1

Requirement Reference the current UH-1Y Course Catalog for the NSI POI.

3.18 REQUIREMENTS AND QUALIFICATIONS PHASE (6000)

**Purpose** To outline the requirements for qualifications and designations.

**General**

Once the flight to attain the qualification/designation is complete, a letter from the squadron commanding officer awarding the qualification/designation shall be placed in the NATOPS before that qualification/designation
can be utilized. Completion of the NTPS-6101 sortie meets the requirements for the CCUI/AOUI to be NATOPS qualified. At the discretion of the squadron commanding officer a letter assigning the CCUI/AOUI as NATOPS qualified shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of the Aerial Gunner Qualification Stage QUAL-6301 meets the requirements for the CCUI/AOUI to be eligible for the GAU-17 AG qualification. At the discretion of the squadron commanding officer a letter designating the CCUI/AOUI as GAU-17 AG QUAL shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of the Aerial Gunner Qualification Stage QUAL-6302 meets the requirements for the CCUI/AOUI to be eligible for the M240D AG qualification. At the discretion of the squadron commanding officer a letter designating the CCUI/AOUI as M240D AG QUAL shall be placed in the NATOPS jacket and an entry made in the flight log book.

Completion of the Aerial Gunner Qualification Stage QUAL-6303 meets the requirements for the CCUI/AOUI to be eligible for the GAU-21 AG qualification. At the discretion of the squadron commanding officer a letter designating the CCUI/AOUI as GAU-21 AG QUAL shall be placed in the NATOPS jacket and an entry made in the flight log book.

3.19 RCQD STAGES. The following stages are included in the Requirements and Qualifications Phase of training.

3.19.1 NATOPS Qualification

**Purpose** To certify the CCUI/AOUI as NATOPS qualified in the UH-1Y.

**General**

The NATOPS qualification is an annual requirement. A designated NATOPS Instructor/Assistant NATOPS Instructor shall evaluate NTPS-6101.

Completion of this stage meets the requirements for the annual NATOPS evaluation. The NTPS-6101 event may be logged in conjunction with any operational or training flight.

Individuals have 60 days to complete the NATOPS evaluation process from the start of NTPS-6001 to the completion of NTPS-6101.


Documentation of the annual NATOPS Evaluation Reports shall be filed in the individual NATOPS Flight Personnel Training/Qualification Jacket in Section III, Part D. The Annual NATOPS Evaluation Reports will be retained permanently in the NATOPS Jacket.

NTPS-6001, NTPS-6002 and NTPS-6003 do not require EATFs.

**AOUI requirements.** 6002, 6003, 6004, 6101

**Crew Requirements.** As listed at the end of each event.

**Ground/Academic Training.** IAW NATOPS.

**NTPS-6002 1.5 365 B,R,SC,M G Open Book NATOPS Evaluation**

**Goal.** To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations.

**Performance Standards.** Achieve a grade of qualified IAW NATOPS.

**NTPS-6003 1.0 365 B,R,SC,M G Closed Book NATOPS Evaluation**

**Goal.** To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations.

**Performance Standards.** Achieve a grade of qualified IAW NATOPS.
Goal. To evaluate airman’s knowledge of normal/emergency procedures, systems and aircraft limitations. The oral examination may be conducted prior to or as part of the flight evaluation.

Performance Standards. Achieve a grade of qualified IAW NATOPS.

Goal. Conduct an annual NATOPS check.

Requirement. Successfully conduct the evaluation IAW CNAFINST 3710.7 and NATOPS.

Performance Standards. IAW CNAFINST 3710.7 and NATOPS

Prerequisites. Grade of qualified on NTPS-6002, 6003, 6004

Crew. ANI (ANI designated NSI)/CCUI or AOUI

Performance Standards. IAW CNAFINST 3710.7 and NATOPS

3.19.2 Annual Crew Resource Management (CRM) Evaluation

Purpose. Conduct annual CRM ground training and flight evaluation.

General.

Completion of this stage meets the requirements for the annual CRM flight evaluation and ground training.

The CRM-6102 event may be logged in conjunction with any operational or training flight. However, it should be completed in conjunction with the annual NATOPS check, when possible.

CRM training and flight evaluations shall be logged in the individual NATOPS Flight Personnel Training/Qualification Jacket in section II, part C on enclosure (4). In addition to Section II part C entries, CRM flight evaluation shall be commented on in the remarks section of the NATOPS evaluation form when the flight is flown in conjunction with NTPS-6101. Additionally, annual CRM flight evaluations shall be documented in the individual aircrew logbooks.

AOUI requirements. 6005, 6102

Crew Requirements. CRMF (CRMF Designated NSI)/CCUI or AOUI

Ground/Academic Training. IAW CNAFINST 1542.7 series.

Goal. Receive annual CRM training.

Requirement. IAW CNAFINST 1542.7 series receive instruction in CRM history, Seven Critical Skills, CNAFINST 1542.7 series and a T/M specific case study or scenario.


Requirement. Successfully conduct the evaluation IAW CNAFINST 3710.7 and NATOPS. The evaluation should be conducted in conjunction with the annual NATOPS evaluation flight, when possible.

Performance Standards. IAW CNAFINST 3710.7 and NATOPS

Prerequisite. CRM-6005

Crew. CRMF (CRMF designated NSI)/CCUI or AOUI

Goal. To obtain designation as a Crew Resource Management Facilitator (CRMF).
**Requirement.** Complete the requirements specified per CNAFINST 1542.7. Completion of this event meets the requirements to be eligible for the CRMF designation. At the discretion of the commanding officer a letter designating the PUI as CRMF shall be placed in the NATOPS jacket and APR.

**Performance Standards.** IAW CNAFINST 1542.7.

---

**CRM-6104 0.0 * B G CRMI Training**

**Goal.** To obtain designation as a Crew Resource Management Instructor (CRMI).

**Requirement.** Complete the requirements specified per CNAFINST 1542.7. Completion of this event meets the requirements to be eligible for the CRMI designation. At the discretion of the commanding officer a letter designating the PUI as CRMI shall be placed in the NATOPS jacket and APR.

**Performance Standards.** IAW CNAFINST 1542.7.

---

3.19.3 **Aerial Gunner Qualification Stage**

**Purpose.** To achieve qualification as an aerial gunner.

**General.**
Completion of this stage qualifies the CCUI/AOUI for qualification as an aerial gunner on the respective weapons.

Appropriate documentation will be completed for each weapon prior to qualification as an aerial gunner.

A qualification letter shall be placed in the NATOPS Jacket and an entry made in the flight log book.

Initial prerequisite events for a Basic or Transition POI shall not be flown in conjunction with this stage.

Refer to paragraph 3.5.3 for crew served weapons ordnance delivery standards.

**AOUI requirements.** QUAL-6301 through 6303

**Crew Requirement.** NSI/CCUI or AOUI

**Ground Training.** Refer to UH-1Y Course Catalog for applicable required readings. Closed book written examinations shall be administered prior to each individual weapon evaluation flight. LABs should be used to evaluate the CCUI’s weapon system knowledge without assessing instructional ability.

**QUAL-6301 1.5 1095 B,R,M NS A 2 H-1**

**Goal.** GAU-17/A aerial gunner qualification.

**Requirements**

**Review**
- SWD principles
- Cycle of operation/nomenclature
- Weapons checklist usage
- Weapons malfunctions and troubleshooting procedures
- Laser usage and system knowledge
- Airspace Coordination Measures
- Tactical aircrew responsibilities
- Threat countertactics
- Weapon System Switchology
- CAT TTPs and responsibilities
- CAS TTPs and responsibilities
- Escort TTPs and responsibilities

**Performance Standards**
- Demonstrate detailed knowledge in all aspects of SWD, weapon system cycle of operation, inspection, nomenclature, weapon checklist and usage, and troubleshooting procedures under LLL conditions.
- Demonstrate understanding of mission brief and HMLA Tactics, Techniques and Procedures.
Demonstrate proficiency in safe and effective employment of the GAU-17/A while using NVDs IAW the crew served weapons matrix under LLL conditions.

Meet or exceed accuracy outlined in crew served weapons engagement standards table.

**Prerequisites.** 2609, 2405, NSQ-LLL, 3101, 3103, 3203, 3303, 3403, written examination complete

**Crew.** NSI/CCUI or AOUI

**Ordnance.** 1,500 rounds 7.62mm

**Range Requirement.** Aerial gunnery range

**QUAl-6302**

| 1.5 | 1095 | B.R.M | NS | A | 2 | H-1 |

**Goal.** M240D aerial gunner qualification.

**Requirements**

**Review**

- SWD principles
- Cycle of operation/nomenclature
- Weapons checklist usage
- Weapons malfunctions and troubleshooting procedures
- Laser usage and system knowledge
- Airspace Coordination Measures
- Tactical aircrew responsibilities
- Threat countertactics
- CAT TTPs and responsibilities
- CAS TTPs and responsibilities
- Escort TTPs and responsibilities

**Performance Standards**

- Demonstrate detailed knowledge in all aspects of SWD, weapon system cycle of operation, inspection, nomenclature, weapon checklist and usage, and troubleshooting procedures under LLL conditions.
- Demonstrate understanding of mission brief and HMLA Tactics, Techniques and Procedures.
- Demonstrate proficiency in safe and effective employment of the M240D while using NVDs IAW the crew served weapons matrix under LLL conditions.
- Meet or exceed accuracy outlined in crew served weapons engagement standards table.

**Prerequisites.** 2610, 2405, NSQ-LLL, 3101, 3103, 3203, 3303, 3403, written examination complete

**Crew.** NSI/CCUI or AOUI

**Ordnance.** 600 rounds 7.62mm

**Range Requirement.** Aerial gunnery range

**QUAl-6303**

| 1.5 | 1095 | B.R.M | NS | A | 2 | H-1 |

**Goal.** GAU-21 aerial gunner qualification.

**Requirements**

**Review**

- SWD principles
- Cycle of operation/nomenclature
- Weapons checklist usage
- Weapons malfunctions and troubleshooting procedures
- Laser usage and system knowledge
- Airspace Coordination Measures
- Tactical aircrew responsibilities
- Threat countertactics
- CAT TTPs and responsibilities
CAS TTPs and responsibilities
Escort TTPs and responsibilities

Performance Standards

- Demonstrate detailed knowledge in all aspects of SWD, weapon system cycle of operation, inspection, nomenclature, weapon checklist and usage, and troubleshooting procedures under LLL conditions.
- Demonstrate understanding of mission brief and HMLA Tactics, Techniques and Procedures.
- Demonstrate proficiency in safe and effective employment of the GAU-21 while using NVDs IAW the crew served weapons matrix under LLL conditions.
- Meet or exceed accuracy outlined in crew served weapons engagement standards table.

Prerequisites

- 2611, 2405, NSQ-LLL, 3101, 3103, 3203, 3303, 3403, written examination complete

Crew

- NSI/CCUI or AOUI

Ordnance

- 600 rounds .50cal

Range Requirement

- Aerial gunnery range

3.20 MISSION ESSENTIAL TASK (MET) PHASE. N/A for the UH-1Y Crew Chief T&R.

3.21 MISSION ESSENTIAL TASK (MET) STAGES. N/A for the UH-1Y Crew Chief T&R.

3.22 AVIATION CAREER PROGRESSION MODEL (ACP) PHASE. N/A for the UH-1Y Crew Chief T&R.

3.23 AVIATION CAREER PROGRESSION MODEL (ACP) STAGES. N/A for the UH-1Y Crew Chief T&R.

3.24 ELECTRONIC AIRCREW TRAINING FORM (EATF) REASON CODES. N/A for the UH-1Y Crew Chief T&R.

3.25 T&R SYLLABUS MATRICES

General: The following matrices are provided in accordance with NAVMC 3500.14.

T&R Chaining

Event chaining allows for the completion of more complex and/or advanced events using the same skills to update proficiency status of events. Only events in a sequence entailing demonstration of equivalent skills shall be chained.

When a T&R event is logged, the proficiency dates of other T&R events (usually lower in number) may be updated. The T&R code that is logged is known as the “chaining code,” and the updated codes are “chained codes.” Chained codes are not always updated when a chaining code is logged.

Conditional Chaining. The following environmental conditions further specify which T&R codes are chain-updated:

- Night Systems Optional. Chained codes annotated with a tilde after them, e.g. 2101~NS are only chain-updated if the chaining code is flown using night systems.

- Light Level Optional. Chained codes annotated with a tilde and an ‘NS’ after them, e.g. 2101~NS are only chain-updated if the chaining code is flown using night systems during HLL. Chained codes annotated with a tilde and a ‘LLL’ after them, e.g. 2404~LLL are only chain-updated if the chaining code is flown using night systems during LLL.
### UH-1Y CREW CHIEF T&R SYLLABUS MATRIX (1000 & 5000 PHASES)

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**ACADEMICS (ACAD)**

- **FAMILIARIZATION (FAM)**
- **FORMATION (FORM)**
- **TERRAIN FLIGHT (TERF)**
- **NAVIGATION (NAV)**
- **SPECIFIC WEAPONS DELIVERY (SWD)**

** Specific Weapons Delivery (SWD) **

- UH-1Y enlisted aircrew simulator or Static Weapons Trainer.
- Live fire range
- If using the Static Weapons Trainer
- Aerial gunnery range

** Notations:**
- "ACAD" stands for academics.
- "FAM" stands for familiarization.
- "FORM" stands for formation.
- "TERF" stands for terrain flight.
- "NAV" stands for navigation.
- "SWD" stands for specific weapons delivery.

**Notes:**
- The table includes prerequisites, ordnance quantities, and ordnance notes for each event.
- Event numbers are prefixed with "UH-1Y" as indicated in the document.
- "# REFLY" indicates the number of refly events.
- "# ACAD" indicates the number of academic events.
- "# FAM" indicates the number of familiarization events.
- "# FORM" indicates the number of formation events.
- "# TERF" indicates the number of terrain flight events.
- "# NAV" indicates the number of navigation events.
- "# SWD" indicates the number of specific weapons delivery events.

**RANGE NOTES:**
- "RANGE" column contains the range information for each event.

**ORDNANCE QUANTITY:**
- Information on ordnance quantity is provided for specific events.

**ORDNANCE NOTES:**
- Additional notes regarding ordnance usage are included for reference.

**EVENT CONVERSION:**
- Conversion events are noted in the corresponding columns.

3-65
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**SWD SKILL TOTAL**

| EVENT | 0 | 0 | 0 | 0 | 15.0 |

**FAMILIARIZATION (FAM)**

| FAM | FAM-INT | Prof | 2800 | X | 1.5 (NS) | A 1 * 1901 | X | NEW |

**FAM SKILL TOTAL**

| EVENT | 0 | 0 | 0 | 0 | 1 | 1.5 |

**2000 PHASE TOTAL**

| EVENT | 15 | 15 | 0 | 0.19 | 29.5 |

**ACADEMICS (ACAD)**

| EVENT | 3 | 3 | 0 | 0 | 0 | 0 |

**ESC (ESC)**

| EVENT | 3 | 3 | 0 | 0 | 1 | 4.5 |

**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

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**CLOSE AIR SUPPORT (CAS)**

**FORWARD AIR CONTROLLER (AIRBORNE) [FAC(A)]**

**ACADEMICS (ACAD)**

**AIRBORNE RAPID INSERTION/EXTRACTION (RIE)**

**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

**AIR DELIVERY (AD)**

**TOTAL TIME (Hrs)**: 4109
**CLOSE AIR SUPPORT (CAS)**

CAS

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**DEFENSIVE AIR COMBAT MANEUVERING (DACM)**

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**CHEMICAL, BIOLOGICAL, RADILOGICAL AND NUCLEAR WARFARE (CBRN)**

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**AERIAL BASED EXPEDIENTIAL OPERATIONS (SEA)**

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3.25.3  UH-1Y CREW CHIEF RANGE AND ORDNANCE MATRIX (2000-6000 PHASES)

<table>
<thead>
<tr>
<th>EVENT NUMBER</th>
<th>T&amp;R DESCRIPTION</th>
<th>ORDNANCE QUANTITY</th>
<th>ORDNANCE NOTES</th>
<th>RANGE</th>
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<tbody>
<tr>
<td>1.5</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>Optional.</td>
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**UH-1Y CREW CHIEF RANGE AND ORDNANCE MATRIX (2000-6000 PHASES)**

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<th>RANGE</th>
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<tbody>
<tr>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>Aerial gunnery range (if required)</td>
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<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
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**TERAIN FLIGHT (TERF)**

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<tr>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
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<td>CREW Served Weapons</td>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>2.0</td>
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**SPECIFIC WEAPONS DELIVERY (SWD)**

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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
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<td>Aerial gunnery range (if required)</td>
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**ROUTINE FLIGHT (RF)**

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<td>Aerial gunnery range (if required)</td>
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<tr>
<td>2.0</td>
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<td>Aerial gunnery range (if required)</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
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<tr>
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**DIRECT FIRE SUPPORT (DFS)**

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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
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<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
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<tr>
<td>2.0</td>
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**DIRECT AIR SUPPORT (DAS)**

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<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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</tr>
<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
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**CLOSE AIR SUPPORT (CAS)**

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<tr>
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<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
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<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
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<tr>
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**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<tbody>
<tr>
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<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
<td>X</td>
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<tr>
<td>2.0</td>
<td>CREW Served Weapons</td>
<td>Optional.</td>
<td>Aerial gunnery range</td>
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**CLOSE AIR SUPPORT (CAS)**

<table>
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<th>T&amp;R DESCRIPTION</th>
<th>ORDNANCE QUANTITY</th>
<th>ORDNANCE NOTES</th>
<th>RANGE</th>
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<tbody>
<tr>
<td>1.5</td>
<td>CREW Served Weapons</td>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<tr>
<td>2.0</td>
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<td>Aerial gunnery range (if required)</td>
<td>One of more Combat Assault Transport aircraft</td>
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<td>Optional.</td>
<td>Aerial gunnery range (if required)</td>
<td>One surface Ground Combat Element</td>
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<td>2.0</td>
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<td>Optional.</td>
<td>Aerial gunnery range</td>
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### FORWARD AIR CONTROLLER (AIRBORNE) [FAC(A)]

<table>
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<th>DECRA</th>
<th>EVENT</th>
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<th>CAT</th>
<th>SKILL</th>
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<th>SC</th>
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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<tbody>
<tr>
<td>FAC(A)</td>
<td>3400</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>2.0</td>
<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>365</td>
<td>1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21</td>
<td>Optional</td>
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### AIRBORNE RAPID INSERTION/EXTRACTION (RIE)

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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<tbody>
<tr>
<td>DJE</td>
<td>4100</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>*</td>
<td>Drop Zone or authorized paraop area</td>
<td>Jump Master and two jumpers (jump master may be one of the jumpers)</td>
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<tr>
<td>DJE</td>
<td>4101</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>*</td>
<td>Water drop zone or authorized helocast area</td>
<td>Helocast Master and two swimmers (Helocast Master may be one of the swimmers)</td>
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<tr>
<td>DJE</td>
<td>4103</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.5</td>
<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>365</td>
<td>Drop zone/landing zone or authorized SPIE area</td>
<td>HRST Master and two ropers</td>
</tr>
<tr>
<td>DJE</td>
<td>4104</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>365</td>
<td>Hoist</td>
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<tr>
<td>DJE</td>
<td>4105</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>365</td>
<td>HRST Master and at least two ropers</td>
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### AIR DELIVERY (AD)

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<th>SC</th>
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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<td>AD</td>
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<td>X</td>
<td>X</td>
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<td>(NS)</td>
<td>A</td>
<td>2</td>
<td>365</td>
<td>1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21</td>
<td>Aerial gunnery range</td>
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### CLOSE AIR SUPPORT (CAS)

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<th>R</th>
<th>SC</th>
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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<td>(NS)</td>
<td>A</td>
<td>2</td>
<td>365</td>
<td>1,500 rounds 7.62mm GAU-17/A, 600 rounds 7.62mm M240D, or 600 rounds .50 cal GAU-21</td>
<td>Aerial gunnery range</td>
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### DEFENSIVE AIR COMBAT MANEUVERING (DACM)

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<th>R</th>
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<th>ORDNANCE NOTES</th>
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<th>EXTERNAL SYLLABUS NOTES</th>
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<td>X</td>
<td>X</td>
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<td>(NS)</td>
<td>A</td>
<td>1</td>
<td>485</td>
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<td>Aerial gunnery range or MLT range</td>
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<tr>
<td>DJC</td>
<td>4301</td>
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<td>X</td>
<td>X</td>
<td>1.0</td>
<td>D</td>
<td>A</td>
<td>1</td>
<td>*</td>
<td>Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA</td>
<td>One adversary helicopter and appropriate air-to-air training area</td>
</tr>
<tr>
<td>DJC</td>
<td>4302</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>D</td>
<td>A</td>
<td>2</td>
<td>485</td>
<td>Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA</td>
<td>One adversary helicopter and appropriate air-to-air training area</td>
</tr>
<tr>
<td>DJC</td>
<td>4304</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>D</td>
<td>A</td>
<td>1</td>
<td>*</td>
<td>Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA</td>
<td>One FW adversary and appropriate air-to-air training area</td>
</tr>
<tr>
<td>DJC</td>
<td>4305</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1.0</td>
<td>D</td>
<td>A</td>
<td>2</td>
<td>485</td>
<td>Any empty Crew Served Weapon, GAU-17/A with blank 7.62, or M240D with blank 7.62 and BFA</td>
<td>Two FW adversary and appropriate air-to-air training area</td>
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### SEA-BASED EXPEDITIONARY OPERATIONS (SEA)

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<th>CAT</th>
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<th>SC</th>
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<th>ORDNANCE NOTES</th>
<th>RANGE</th>
<th>EXTERNAL SYLLABUS NOTES</th>
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<td>D</td>
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<td>365</td>
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<tr>
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<td>4602</td>
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<td>X</td>
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<td>N</td>
<td>A</td>
<td>1</td>
<td>365</td>
<td>FCLP pad with shipboard lighting</td>
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<tr>
<td>SEA</td>
<td>4603</td>
<td>X</td>
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### EXTERNAL SYLLABUS NOTES

- **X**: Required
- **D**: Desirable
- **NS**: Not specified

### NAVMC 3500.20

- 24 Nov 21
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# UH-1Y AERIAL OBSERVER / GUNNER T&R SYLLABUS MATRIX (1000 PHASE)

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**FAM Skill Total:** 0 0.0 3 4.5

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**CAT Skill Total:** 0 0.0 2 3.0

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**CSIX Skill Total:** 0 0.0 1 1.0

**AO/G 1000 Phase Total:** 0 0.0 11 15.0

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3,25.4 **UH-1Y AERIAL OBSERVER / GUNNER T&R SYLLABUS MATRIX (1000 PHASE)**
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**UH-1Y AERIAL OBSERVER / GUNNER T&R SYLLABUS MARTIX (2000-6000 PHASES)**

**FAMILIARIZATION (FAM)**

**ACADEMICS (ACAD)**

**ESCORT (ESC)**

**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

**CLOSE AIR SUPPORT (CAS)**

**DEFENSIVE AIR COMBAT MANEUVERING (DACM)**

**NAVMC 3500.20D**

24 Nov 21

3-77
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### Qualification (Qual)

| QUAL  |        | EAU-17 Qual | 6301 | X | X | X | 1.5 | NS | A | 2 | NSQ, LLL, 2405, 2609, 3101, 3103, 3203, 3303, 3403, written examination complete | 2300, 2609 | X | 6301 |
| QUAL  |        | ENH Qual | 6302 | X | X | X | 1.5 | NS | A | 2 | NSQ, LLL, 2405, 2610, 3101, 3103, 3203, 3303, 3403, written examination complete | 2300, 2610 | X | 6302 |
| QUAL  |        | EAU-21 Qual | 6303 | X | X | X | 1.5 | NS | A | 2 | NSQ, LLL, 2405, 2611, 3101, 3103, 3203, 3303, 3403, written examination complete | 2300, 2611 | X | 6304 |
| QUAL SKILL TOTAL | | | | | | | | | | | | | | |
# UH-1Y AERIAL OBSERVER / GUNNER RANGE & ORDNANCE MATRIX (2000-6000)

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**TERAIN FLIGHT (TERF)**

**SPECIFIC WEAPONS DELIVERY (SWD)**

**ESCORT (ESC)**

**COMBAT ASSAULT TRANSPORT OPERATIONS (CAT)**

**CLOSE AIR SUPPORT (CAS)**

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<td>D A</td>
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### T&R Quick Reference Guide

#### UH-1Y CC / AO T&R Codes Quick Reference

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**Notes:**

- * Indicates events required for aerial observers.

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