

CHAPTER EIGHT

**UH-1N SUPPLEMENTARY
COURSES**

UH-1N SPECIFIC ACADEMIC SUPPORT PACKAGE

Course Objective: To provide the UH-1N pilot with additional ground training as required by MCO P3500.14.

Length: 57 classroom hours

Notes:

1. The Academic Support Package (ASP) is developed by MAWTS-1 and is intended to be instructed by a WTI or other qualified squadron instructor. The Academic Syllabus shall be integrated into the Combat Ready (29 hours of academic instruction), Combat Qualified (23 hours of academic instruction) and Fully Combat Qualified (5 hours of academic instruction) stages of training. Classes delineated in paragraph 12 shall be conducted annually for all pilots (7 hours of academic instruction).
2. All lectures listed below in the academic syllabus are available on either the secret or unclassified versions of the MAWTS-1 ASP.

Academic Syllabus:

1. The following syllabus supports the 200-level (Combat Ready) phase of training:
 - a. In direct support of the CAL Stage, the following academic syllabus shall be completed:
 - (1) Self-Paced Readings:
 - (a) TACMAN Chapters 2, 9, 10, 13, 17, 21, 23
 - (b) NATOPS Chapters 6, 8, 10, 18
 - (c) MAWTS-1 Helicopter NVD Manual
 - (2) Lectures:
 - (a) **Prior to Stage Completion:**
 1. ASD Tactical Aircrew Coordination Considerations ASD ASP
 2. MAWTS-1 EOTDA GENERIC ASP
 - (3) Chalk Talks:
 - (a) Section Landings

b. In direct support of the DLQ Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) NATOPS Chapters 9
- (b) LHD/LHA NATOPS
- (c) NWP 42

(2) Lectures: N/A

(3) Chalk Talks:

- (a) FCLP Pattern

c. In direct support of the TNAV Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 2, 9, 10, 21
- (b) NATOPS Chapters 8, 10, 13, 16, 18
- (c) MAWTS-1 Helicopter NVD Manual

(2) Lectures:

(a) **Prior to Stage Initiation:**

- 1. UH-1N CDNU Operations UH-1N ASP

(b) **Prior to Stage Completion:**

- 1. ASD PFPS Operations ASD ASP

(3) Chalk Talks: N/A

d. In direct support of the AG Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 5, 6, 7, 10, 21, Appendix A
- (b) NATOPS Chapters 17, 18

(2) Lectures:

(a) **Prior to Stage Initiation:**

1. UH-1N BCWD

UH-1N ASP

(b) **Prior to Stage Completion:**

1. UH-1N Rockets

2. MAWTS-1 MAGTF FSCM
and Coordination Procedures

UH-1N ASP
WTI READ AHEAD

(3) Chalk Talks:

(a) Attack Patterns

e. In direct support of the EW Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Chapters 8, 22

(b) NATOPS Chapter 17

(2) Lectures:

(a) **Prior to Stage Initiation:**

1. ASD ASE

ASD ASP

(3) Chalk Talks:

(a) ASE Operation

f. In direct support of the ESC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Chapters 16, 18, 19, 20

(2) Lectures:

(a) Prior to Stage Initiation:

1. MAWTS-1 Assault Support Escort Tactics **GENERIC ASP**
2. ASD Evasive Maneuvers **ASD ASP**

(b) Prior to Stage Completion:

1. ASD Convoy Escort **ASD ASP**

(3) Chalk Talks:

(a) Escort Reaction to Threats

- g. In direct support of the NVD Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 10, 21, 23, 25
- (b) NATOPS Chapters 8, 16, 18
- (c) MAWTS-1 Helicopter NVD Manual

(2) Lectures:

(a) Prior to Stage Initiation:

1. UH-1N FLIR Operation **UH-1N ASP**
2. UH-1N HUD Computer Based Trainer **HMLA Part Task Trainer**

(3) Chalk Talks: N/A

- h. In direct support of the FAC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 12, 14, Appendices B, D
- (b) NATOPS Chapters 17, 18
- (c) Joint Publication 3-09.3, JTTP for CAS
- (d) MAWTS-1 FAC(A) Handbook

(2) Lectures:

(a) Prior to Stage Completion:

1. FAC(A) Artillery Call for Fire FAC(A) ASP
2. FAC(A) NSFS Call for Fire FAC(A) ASP
3. FAC(A) Basics FAC(A) ASP
4. FAC(A) Helicopter Low Threat TTPs FAC(A) ASP
5. FAC(A) Helicopter Med/Hi Threat TTPs FAC(A) ASP

(3) Chalk Talks:

- (a) Call for Fire Delivery
- (b) 9-Line Delivery

- i. In direct support of the TAC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 9, 12, 13, 15, 16, 17, 19, 20
- (b) NATOPS Chapters 17, 18

(2) Lectures:

(a) Prior to Stage Initiation:

1. UH-1N Objective Area Planning and Briefing UH-1N ASP
2. UH-1N Section Tactics UH-1N ASP

(b) Prior to Stage Completion:

1. UH-1N Reconnaissance UH-1N ASP

(3) Chalk Talks:

- (a) C&C Cockpit Management

- j. In general support of the Combat Ready Phase, the following academic syllabus should be completed:

(1) Lectures:

- (a) AN/ARC-210 Interactive Training System HMLA Part Task Trainer
- (b) UH-1N CDNU Interactive Training System HMLA Part Task Trainer
- (c) ASD Objective Area Planning and Briefing ASD ASP
- (d) ASD Tactical Briefing and Debriefing ASD ASP

- (e) UH-1N ACEOI(AKAC)/ATO UH-1N ASP
- (f) MAWTS-1 MACCS Basics GENERIC ASP
- (g) MAWTS-1 Marine Corps Planning Process GENERIC ASP
- (h) MAWTS-1 Intelligence Support to Mission Planners GENERIC CLASSIFIED ASP

2. The following syllabus supports the 300-level (Combat Qualified) phase of training:

a. In direct support of the ANSQ Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 10, 21, 23
- (b) NATOPS Chapters 8, 16, 18
- (c) MAWTS-1 Helicopter NVD Manual

(2) Lectures:

(a) **Prior to Stage Completion:**

- 1. NITE LAB Tactics in the Night Environment NITE LAB ASP

(3) Chalk Talks:

(a) Sensor Integration

b. In direct support of the HIE Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapter 13
- (b) NATOPS Chapters 6, 12, 18

(2) Lectures:

(a) **Prior to Stage Initiation:**

- 1. ASD Fast Rope Operations ASD ASP
- 2. ASD Rappel Operations ASD ASP

c. In direct support of the DLQ Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) NATOPS Chapters 9
- (b) LHD/LHA NATOPS
- (c) NWP 42

(2) Lectures: N/A

(3) Chalk Talks:

- (a) CQ Patterns
- (b) ELVA Approaches

d. In direct support of the ESC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 18, 19, Appendix C

(2) Lectures:

(a) **Prior to Stage Completion:**

- 1. MAWTS-1 FARP Operations **GENERIC ASP**
- 2. ASD Helicopter Assault Key Players **ASD ASP**

e. In direct support of the DM Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 3, 4

(2) Lectures:

(a) **Prior to Stage Initiation:**

- 1. ASD Helicopter Ps/EM **ASD ASP**
- 2. UH-1N Air to Air Considerations **UH-1N ASP**

(3) Chalk Talks:

(a) Helicopter Versus Helicopter DM Gameplans

f. In direct support of the FAC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 12, 14, Appendices B, D
- (b) MAWTS-1 FAC(A) Handbook
- (c) MCWP 3-16.6, Supporting Arms Observer, Spotter, and Controller
- (d) NATOPS Chapters 17, 18

(2) Lectures:

(a) **Prior to Stage Completion:**

- 1. MAWTS-1 MAGTF Targeting and Fire Support Planning **WTI READ AHEAD**
- 2. FAC(A) OAS PGMs **FAC(A) ASP**
- 3. FAC(A) FW/RW OAS Integration **FAC(A) ASP**
- 4. FAC(A) Planning and Preparation **FAC(A) ASP**
- 5. FAC(A) and TAC(A) Employment **FAC(A) ASP**
- 6. FAC(A) Night Helicopter TTPs **FAC(A) ASP**

(3) Chalk Talks:

- (a) JAAT Mechanics
- (b) Airspace Management
- (c) SEAD Employment

g. In direct support of the AG Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapters 5, 6, 7, Appendix A
- (b) NATOPS Chapters 17, 18
- (c) MCWP 3-23.1, CAS, MCWP 3-23.2, DAS

(2) Lectures:

(a) **Prior to Stage Completion:**

1. ASD Urban Close Air Support

ASD CLASSIFIED ASP

(3) Chalk Talks:

(a) Objective Area Flow

(4) Chalk Talks:

(a) Rotary-wing / Fixed-wing Escort Integration

h. In direct support of the TAC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Chapters 9, 11, 13, 15, 16, 17, 19

(b) NATOPS Chapters 8, 17, 18

(c) MCWP 3-24, Assault Support

(2) Lectures:

(a) **Prior to Stage Completion:**

1. MAWTS-1 TRAP Planning

GENERIC ASP

2. ASD Execution Checklist

ASD ASP

(3) Chalk Talks:

(a) TRAP Objective Area Responsibilities and Flow

(b) Hot LZ Considerations

i. In general support of the Combat Qualified Phase, the following academic syllabus should be completed:

(1) Lectures:

(a) MAWTS-1 Basic Radar Principles

GENERIC ASP

(b) ASD AAA Threat

ASD CLASSIFIED ASP

(c) ASD IR SAM Threat

ASD CLASSIFIED ASP

(d) ASD Radar SAM Threat

ASD CLASSIFIED ASP

(e) MAWTS-1 Control of Aircraft & Missiles

WTI READ AHEAD

(f) MAWTS-1 Aviation Support of the MAGTF

GENERIC ASP

- (g) ASD Attack Helicopter Threat ASD CLASSIFIED ASP
- (h) ASD Military Operations on Urban Terrain ASD ASP

3. The following syllabus supports the 400-level (Full Combat Qualified) phase of training:

a. In direct support of the HIE Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) TACMAN Chapter 13
- (b) NATOPS Chapters 6, 12, 18

(2) Lectures:

(a) **Prior to each applicable sortie:**

- 1. ASD SPIE Operations ASD ASP
- 2. ASD Helocast Operations ASD ASP

(3) Chalk Talks:

(a) HIE Crew Coordination

b. In direct support of the AAG Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Chapter 4

(2) Lectures: N/A

(3) Chalk Talks:

(a) Shadow Guns Patterns

c. In direct support of the MAT Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) UH-1N NATOPS Chapter 10

(2) Lectures: N/A

(3) Chalk Talks:

(a) High Altitude Power Charts

d. In direct support of the NBC Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Appendix E

(2) Lectures: N/A

(3) Chalk Talks: N/A

e. In direct support of the DM Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) TACMAN Chapters 3, 4

(b) MAWTS-1 DM Manual

(2) Lectures:

(a) UH-1N DACT Training

(b) ASD Fixed Wing Threat

(c) MAWTS-1 TAOC

UH-1N ASP

ASD CLASSIFIED ASP

GENERIC ASP

(3) Chalk Talks:

(a) Helicopter Versus Fixed-Wing DACT Gameplans

4. The following syllabus shall be completed in support of Utility Helicopter Commander training:

a. Self-Paced Readings:

(1) TACMAN Chapters 5, 6, 7, 22

b. Lectures:

(1) **Prior to Designation:**

(a) MAWTS-1 ROE and the Law of War

GENERIC CLASSIFIED ASP

- (b) MAWTS-1 Joint Air Operations **GENERIC ASP**
- (c) ASD Rapid Response Planning **ASD ASP**
- (d) ASD NEO Execution **ASD ASP**

c. Chalk Talks: N/A

5. The following syllabus shall be completed in support of Section Leader training:

a. Self-Paced Readings:

(1) TACMAN Chapters 2, 10, 13, 15, 16, 17, 18, 19, 20

(2) MCWP 5-1 *Marine Corps Planning Process*

b. Lectures: **Prior to designation**, review all previously introduced lectures, placing special emphasis on the following:

(1) MAWTS-1 Marine Corps Planning Process **ASD ASP**

(2) MAWTS-1 MAGTF Fire Support
Coordination Measures **WTI READ AHEAD**

(3) MAWTS-1 Intelligence Support to Mission
Planners **GENERIC CLASSIFIED ASP**

(4) ASD Tactical Briefing and Debriefing **ASD ASP**

c. Chalk Talks: N/A

6. The following syllabus shall be completed in support of Division Leader training:

a. Self-Paced Readings:

(1) TACMAN Chapter 12

(2) MAWTS-1 *ACE Battle Staff Planning Guide*

b. Lectures: **Prior to designation**, review all previously introduced lectures, placing special emphasis on the following:

(1) MAWTS-1 ACE Battle Staff Planning **GENERIC ASP**

(2) MAWTS-1 ROE and the Laws of War **GENERIC CLASSIFIED ASP**

(3) MAWTS-1 Aviation Support to the MAGTF **GENERIC ASP**

(4) ASD Objective Area Planning & Briefing **GENERIC ASP**

c. Chalk Talks:

(1) Division Attack Patterns

7. The following syllabus shall be completed in support of Flight Leader training:
 - a. Self-Paced Readings:
 - (1) TACMAN Chapter 12
 - (2) MAWTS-1/TTECG *How to Plan a Helicopter Assault*
 - b. Lectures: **Prior to designation**, review all previously introduced lectures, placing special emphasis on the following:
 - (1) MAWTS-1 Joint Air Operations GENERIC ASP
 - (2) MAWTS-1 Tactical Recovery of Aircraft and Personnel (TRAP) GENERIC ASP
 - (3) ASD Execution Checklist ASD ASP
 - (4) ASD NEO Execution ASD ASP
 - c. Chalk Talks: N/A

8. The following syllabus shall be completed in support of Air Mission Commander training:
 - a. Self-Paced Readings:
 - (1) TACMAN Chapter 12
 - (2) "Lessons from the Gulf: Helicopterborne Assaults," *Marine Corps Gazette* February 1996
 - b. Lectures: **Prior to designation**, review all previously introduced lectures, placing special emphasis on the following:
 - (1) MAWTS-1 Control of Aircraft & Missiles WTI READ AHEAD
 - (2) MAWTS-1 MAGTF Targeting and Fire Support Planning WTI READ AHEAD
 - (3) ASD Rapid Response Planning ASD ASP
 - (4) ASD Helicopter Assault Key Players ASD ASP
 - c. Chalk Talks: N/A

9. The following syllabus shall be completed in support of Basic Instructor Pilot (BIP) training:
 - a. Self-Paced Readings:
 - (1) UH-1N NATOPS Chapters 8-14
 - (2) TACMAN Chapter 13
 - (3) LHD/LHA NATOPS

(4) NWP 42

b. Lectures: N/A

c. Chalk Talks: The PBIP shall be prepared to present a chalk talk on the applicable flight regime for the specific sortie being flown, with special emphasis placed on error analysis and correction.

10. The following syllabus shall be completed in support of Terrain Flight Instructor (TERFI) training:

a. Self-Paced Readings:

(1) UH-1N NATOPS Chapters 9-10

(2) TACMAN Chapter 2

b. Lectures: The PTERFI shall review all of the following lectures, and be capable of presenting one of these classes prior to designation.

- | | |
|---|-----------|
| 1. ASD Tactical Aircrew Coordination Considerations | ASD ASP |
| 2. UH-1N CDNU Operations | UH-1N ASP |
| 3. ASD PFPS Operations | ASD ASP |

c. Chalk Talks: N/A

11. The following syllabus shall be completed in support of Weapons Training Officer (WTO) training:

a. Self-Paced Readings:

(1) TACMAN Volume I, Chapters 5-9

(2) TACMAN Volume II

b. Lectures: The PWTO shall review all of the following lectures, and be capable of presenting one of these classes prior to designation.

- | | |
|--|----------------|
| (1) UH-1N BCWD | UH-1N ASP |
| (2) UH-1N Rockets | UH-1N ASP |
| (3) NITE LAB NVG Ordnance | NITE LAB ASP |
| (4) MAWTS-1 MAGTF FSCM and Coordination Procedures | WTI READ AHEAD |
| (5) UH-1N Objective Area Planning and Briefing | UH-1N ASP |
| (6) UH-1N Section Tactics | UH-1N ASP |
| (7) UH-1N Reconnaissance | UH-1N ASP |
| (8) MAWTS-1 TRAP Planning | GENERIC ASP |

c. Chalk Talks: N/A

12. The following classes shall be presented to all pilots annually:

- | | |
|------------------------------------|--------------------|
| a. ASD AAA Threat | ASD CLASSIFIED ASP |
| b. ASD IR SAM Threat | ASD CLASSIFIED ASP |
| c. ASD Radar SAM Threat | ASD CLASSIFIED ASP |
| d. ASD Attack Helicopter Threat | ASD CLASSIFIED ASP |
| e. ASD Fixed Wing Threat | ASD CLASSIFIED ASP |
| f. ASD FAC(A) Basics | ASD ASP |
| g. FAC(A) Planning and Preparation | FAC(A) ASP |

UH-1N FORWARD AIR CONTROLLER (AIRBORNE) INSTRUCTOR [FAC(A)] CERTIFICATION COURSE

Course Objective: To certify the UH-1N pilot as a Forward Air Controller (Airborne) Instructor capable of conducting ground and airborne instruction of FAC(A) missions. Emphasis will be placed on ability to coordinate simultaneous FW and RW CAS, and surface fires (direct and indirect), while working with a TACP and operating within the MACCS.

Length: IUT: 9 classroom hours, 1 sortie.

Cert: 1 hour class presentation, 1 hour discussion period, 1 hour test, and 1 sortie.

Notes:

1. The FAC(A)I certification course is developed by MAWTS-1. The IUT portion is designed to be instructed by a FAC(A)I or MAWTS-1 instructor. Upon certification by a MAWTS-1 instructor, the FAC(A)I designation may be given at the discretion of the squadron commanding officer.
2. UH-1N pilots designated as a FAC(A)I may instruct MCO 3500.16 (T&R Vol III) FAC(A) syllabus flights.
3. Experience has shown that a FAC(A) must develop additional expertise to meet the standards for successful completion of the FAC(A)I certification, therefore MAWTS-1 recommends a minimum of (4) FAC(A) sorties be completed before a pilot commences the FAC(A)I IUT syllabus.
4. The academic syllabus will be completed prior to beginning the flight syllabus in any stage.

Prerequisites:

1. FAC(A) qualified IAW MCO 3500.16.
2. Designated Weapons Training Officer.
3. Designated Section Leader.
4. NSQ LLL and proficient IAW MCO P3500.14 and 3500.16.

IUT STAGE

IUT Academic Syllabus:

1. The IUT shall review and be capable of presenting the following classes from the MAWTS-1 FAC(A) ASP:
 - a. FAC(A) Artillery, Call for Fire FAC(A) ASP
 - b. FAC(A) Naval Gunfire, Call for Fire FAC(A) ASP
 - c. FAC(A) Planning and Preparation FAC(A) ASP
 - d. FAC(A) Employment FAC(A) ASP
 - e. FAC(A) and TAC(A) Employment FAC(A) ASP
 - f. FAC(A) MAGTF FSCM FAC(A) ASP
 - g. FAC(A) Targeting and Fire Support Planning FAC(A) ASP
 - h. FAC(A) Theater Air Ground Systems (TAGS) FAC(A) ASP
 - i. FAC(A) MACCS Parts I & II FAC(A) ASP
 - j. FAC(A) Field Artillery Trends FAC(A) ASP
 - k. FAC(A) NSFS Capabilities FAC(A) ASP
 - l. FAC(A) Low Threat FAC(A) FAC(A) ASP
 - m. FAC(A) Medium High Threat FAC(A) FAC(A) ASP
 - n. FAC(A) Night FAC(A) FAC(A) ASP

2. The IUT shall review and have proficient working knowledge of the following:
 - a. UH-1N TACMAN (Vol I & II)
 - b. MCWP 3-23 (OAS)
 - c. MCWP 3-23.1 (CAS)
 - d. MCWP 3-23.2 (DAS)
 - e. MCWP 3-16.6 (Supporting Arms Observer, spotter, and controller)
 - f. Joint Pub 3-09.3 (J-CAS)
 - g. Joint Pub 3-09.1 (J-LASER)
 - h. MCRP 3-16.8B (J-Fire)
 - i. MCRP 3-23A (JAAT)
 - j. MAWTS-1 Course Catalog (Chapter 13, FAC(A)I section)
 - k. Joint Division Order P3120.23 (FSC SOP)

IUT Flight Syllabus:

1. The syllabus consists of one (1) flight, FAC(A)I 540.
2. The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct tactical FAC(A) missions under all threat conditions, day or night.
3. The IUT shall demonstrate proficiency in performing visual reconnaissance and coordinating SEAD in all threat conditions, day or night.

4. The IUT sortie or the certification sortie must be flown at night.
5. The IUT sortie must utilize both TACP and MACCS agencies (actual or notional).
6. Actual indirect fires must be employed for either the 540 or the 541E sortie.
7. During the conduct of the 541E sortie, the IUT must demonstrate the ability to support a ground unit's (notional or actual) scheme of maneuver by integrating assets and fires in the objective area utilizing a combination of FW assets and either indirect fires or a section of RW CAS (separate from the FAC(A) section). If actual indirect fires were not employed during the 540 sortie, they **must** be utilized for the 541E.

FAC(A)I 540 (2) UH-1Ns N (optional if 541 is flown at night)

Goal: To evaluate the IUT's ability to instruct a FAC(A) mission utilizing combined CAS procedures in a low or medium threat environment.

Requirements:

1. IUT shall fly this sortie in a FLIR equipped aircraft.
2. The IUT shall analyze the mission based on the GCE mission objective, threat, weather, control measures, C3 network, and CAS aircraft capabilities and tactics.
3. The IUT shall brief and employ a FAC(A) section gameplan to support the GCE scheme of maneuver.
4. The IUT shall check-in with a TACP / FAC (actual or notional) for both enemy and friendly situation briefs, indirect fire considerations, terminal control responsibilities, and restrictions. The IUT shall then develop a course of action based on the information provided.
5. The IUT shall perform visual reconnaissance of two (2) targets and prepare target briefs. The IUT shall successfully engage both targets with FW and his own section of aircraft utilizing JAAT principles and standard J-CAS briefing and control procedures. Talk-ons will be used appropriately to supplement the J-CAS brief. A minimum of two (2) separate and distinct attacks are required.
6. The IUT shall demonstrate the ability to successfully provide a mark thirty (30) seconds prior (+/- 10 seconds) to the TOT, and demonstrate the ability to provide timely, accurate corrections for attack aircraft.

Ordnance: Any combination of self-protection and target marking capability.

External Support Requirements: Two (2) or more FW aircraft with ordnance; indirect fire support optional.

CERTIFICATION STAGE

Certification Academic Syllabus

1. The IUT shall present to a MAWTS-1 instructor, one of the classes listed in paragraph one of the IUT academic syllabus, as determined by the MAWTS-1 instructor, before the certification flight.
2. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N FAC(A)I question bank which utilizes the references listed in paragraph two of the IUT academic syllabus.
3. The IUT shall complete a one hour discussion period, prior to the certification flight.

Certification Flight Syllabus

1. The syllabus consists of one (1) sortie, FAC(A)I 541E.
2. The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct tactical FAC(A) missions under high threat conditions, day or night.
3. The certification flight must be flown with a MAWTS-1 instructor.
4. The certification flight must be flown within six (6) months of the IUT flight. If six months have elapsed since the completion of the IUT flight, the IUT flight must be reflown prior to completing the certification flight.
5. The certification sortie must utilize both TACP and MACCS agencies (actual or notional).
6. The certification sortie must utilize indirect fire support (required if not utilized during the conduct of the 540 sortie) or a separate RW CAS element.

Goal: Evaluate the IUT's ability to instruct a FAC(A) mission utilizing SEAD and CAS procedures in a high threat environment.

Requirements:

1. The IUT shall fly this sortie in a FLIR equipped aircraft.
2. The IUT shall analyze the mission based on the GCE mission objective, threat, weather, control measures, C3 network, and CAS aircraft capabilities and tactics.
3. The IUT shall brief and employ a FAC(A) section gameplan to support the GCE scheme of maneuver.
4. The IUT shall check-in with a TACP / FAC (actual or notional) for both enemy and friendly situation briefs, indirect fire considerations, terminal control responsibilities, and restrictions. The IUT shall then develop a course of action based on the information provided.
5. The IUT shall perform visual reconnaissance of two (2) targets and prepare target briefs. The IUT shall successfully engage both targets with FW and his own section of aircraft utilizing JAAT principles and standard J-CAS briefing and control procedures. Talk-ons will be used appropriately to supplement the J-CAS brief. A minimum of two (2) separate and distinct attacks are required.
6. The IUT shall demonstrate the ability to successfully provide a mark thirty (30) seconds prior (+/- 10 seconds) to the TOT, and demonstrate the ability to provide timely, accurate corrections for attack aircraft.
7. Utilizing appropriate tactics, the IUT shall coordinate attacks utilizing fixed wing aircraft and either indirect fires or a separate rotary wing CAS element to simultaneously engage simulated threat targets.

Ordnance: Any combination of self-protection and target marking capability.

External Support Requirements: Two (2) or more FW aircraft with ordnance; indirect fire support (required if not used on 540) or tow (2) or more RW aircraft with ordnance.

RECERTIFICATION REQUIREMENTS:

Refresher / Transition / Conversion:

1. The IUT must meet all prerequisites.

2. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N FAC(A)I question bank which utilizes the references listed in paragraph two of the IUT academic syllabus.
3. The IUT must complete the FAC(A)I 541E flight, evaluated by a MAWTS-1 instructor. This flight may be flown day or night.

UH-1N NIGHT SYSTEMS SAR INSTRUCTOR (NSSI) CERTIFICATION COURSE

Course Objective: To certify a UH-1N pilot as a Night Systems SAR Instructor (NSSI) capable of safely conducting ground and airborne instruction of the Night Vision Device (NVD) flight syllabus outlined in MCO P3500.17.

Length: IUT: 4 classroom hours, 2 sorties
Cert: 1 NSSI exam, 1 hour class presentation, and 1 sortie.

Notes:

1. The UH-1N NSSI Course is developed by MAWTS-1. Upon certification by an NSI or MAWTS-1 instructor, the NSSI designation can be made at the discretion of the squadron commanding officer.
2. Previously certified UH-1N Night Systems Instructors (NSI) can be designated as an NSSI at the discretion of the commanding officer. The UH-1N NSSI Certification Course is not required.
3. The academic syllabus will be completed prior to beginning the flight syllabus in any stage.

Prerequisites:

1. Designated SAR Helicopter Aircraft Commander (HAC).
2. Night System Qualified (NSQ) and proficient in accordance with MCO P3500.14 and MCO P3500.16.

IUT STAGE

IUT Academic Syllabus:

1. The instructor under training (IUT) shall review and be capable of presenting the following classes:
 - a. NITE LAB The Human Visual System NITE LAB ASP
 - c. NITE LAB Introduction To NVGs NITE LAB ASP
 - d. NITE LAB The Night Environment NITE LAB ASP
 - e. NITE LAB NVG Adjustment Procedures NITE LAB ASP
 - f. NITE LAB NVG Misperceptions And Illusions NITE LAB ASP
 - g. NITE LAB Night Operations NITE LAB ASP
 - h. NITE LAB Route Planning Considerations NITE LAB ASP

IUT Flight Syllabus:

1. The squadron will ensure that the IUT is prepared for certification. The certification stage of the flight syllabus must be complete within six (6) months following the first IUT flight. If six months have elapsed since completion of any IUT flight, that flight must be reflight prior to completing the final certification flight.
2. The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct search and rescue missions at night on NVGs.
3. The following flights will be instructed by an NSSI, NSI, or MAWTS-1 instructor:

NVD 550 1 UH-1N N

Goal: Conduct low work, pattern work, and simulated emergencies emphasizing instructional techniques under HLL conditions as defined by MCO P3500.14.

Requirements:

1. The IUT shall demonstrate a thorough knowledge of the MAWTS-1 NVD manual and brief/discuss the following:
 - a. The use of NVG's
 - b. Cockpit lighting
 - c. Aircraft external lighting
 - d. Crew coordination
 - e. Comfort level
 - f. Emergency procedures
 - g. NVG failures
 - h. Depth perception
 - i. Scan techniques
 - j. Inadvertent IMC
 - k. Waveoff procedures
 - l. NVG training restrictions/requirements detailed in MCO P3500.14.
 - m. Visual illusions
2. Introduce and conduct low work, pattern work, and simulated emergencies with emphasis on instructional techniques.
3. Review single/dual engine malfunctions, simulated inadvertent IMC on landing, recovery from inadvertent IMC, hover/no hover landings, autorotations, quick stops, and high-speed low level autorotations.

Ordinance: N/A

External Support Requirements: N/A

NVG 551

1 UH-1N

N

Goal: Demonstrate the ability to instruct CAL's and navigation while utilizing NVDs under LLL conditions as defined by MCO P3500.14F.

Requirements:

1. Brief/discuss NVG map preparation, NVG route cards, checkpoint identification, en route hazards, moon angle/azimuth and shadowing. Also discuss confined area landings, crew coordination, inadvertent IMC and brownout/whiteout.
2. Conduct CAL's at an LZ which meets the special considerations for landing zones outlined in the MAWTS-1 NVD manual.
3. Conduct a navigation route of 50 NM or greater, at or above 200 ft AGL, utilizing both a 1:250,000 and 1:50,000 map. The IUT is to remain oriented within 200 meters the planned route and arrive at the final checkpoint within 1 minute.

Ordnance: N/A

External Support Requirements: N/A

CERTIFICATION STAGE

Certification Academic Syllabus

1. The written examination will be administered by an NSI or MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month.
2. The IUT shall present to the NSI or MAWTS-1 instructor, one of the classes listed above, as determined by the NSI or MAWTS-1 instructor, before completing the certification flight. Presentation of the class shall be annotated in the APR.

Certification Flight Syllabus: The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct night systems operations in a search and rescue environment. The certification flight will be conducted under LLL conditions as defined by MCO P3500.14.

Goal: Demonstrate the ability to instruct CAL's and navigation while utilizing NVDs under LLL conditions as defined by MCO P3500.14.

Requirements:

1. Brief/discuss NVG map preparation, NVG route cards, checkpoint identification, en route hazards, moon angle/azimuth and shadowing. Also discuss confined area landings, crew coordination, inadvertent IMC and brownout/whiteout.
2. Conduct CAL's at an LZ which meets the special considerations for landing zones outlined in the MAWTS-1 NVD manual. The minimum number of CALs will be determined by the NSI or MAWTS-1 instructor.
3. Conduct a navigation route of 50 NM or greater, at or above 200 ft AGL, utilizing both a 1:250,000 and 1:50,000 map. The IUT is to remain oriented within 200 meters and arrive at the final checkpoint within 1 minute. The minimum number of checkpoints will be determined by the NSI or MAWTS-1 instructor.

Ordnance: N/A

External Support Requirements: N/A

RECERTIFICATION REQUIREMENTS:

Refresher/Transition/Conversion: N/A

UH-1N NIGHT SYSTEMS FAMILIARIZATION INSTRUCTOR (NSFI) CERTIFICATION COURSE

Course Objective: To certify a UH-1N pilot as a Night Systems Familiarization Instructor (NSFI) capable of safely conducting ground and airborne instruction of night vision device (NVD) flight during the combat capable flight phase.

Length: IUT: 5 classroom hours and 2 sorties.

Cert: 1 hour NSFI exam, 1 hour class presentation, and one sortie.

Notes:

1. The UH-1N NSFI Course is developed by MAWTS-1 and supports the certification of NSFIs for fleet replacement squadrons only. The IUT portion is designed to be taught by a night systems instructor (NSI), NSFI, or MAWTS-1 instructor. Upon certification by an NSI or MAWTS-1 instructor, the NSFI designation may be made at the discretion of the squadron commanding officer.
 2. Previously certified UH-1N NSI's, not requiring refresher training, can be designated as an NSFI at the discretion of the commanding officer.
 3. Night systems familiarization training is defined as basic night vision goggle orientation and use. Flight operations include all maneuvers contained within the combat capable flight phase.
1. The academic syllabus will be completed prior to beginning the flight syllabus in any stage.

Prerequisites:

1. Night Systems Qualified (NSQ) and proficient in accordance with MCO P3500.14 and MCO P3500.16.
2. Designated TERF Instructor.
3. Designated BIP.

IUT STAGE

IUT Academic Syllabus:

1. The instructor under training (IUT) shall review and be capable of presenting the following classes:
 - a. NITE LAB Night Vision Systems
 - c. NITE LAB Night System Human Factors

NITE LAB ASP
NITE LAB ASP

External Support Requirements: 1 aircraft, UH-1 or AH-1 preferred.

NVD 561

1 UH-1N

N

Goal: Demonstrate the ability to instruct FAM and TERF maneuvers, CAL's, and navigation utilizing NVG's under HLL conditions as defined by MCO P3500.14.

Requirements:

1. Brief/discuss NVG map preparation, NVG route cards, checkpoint identification, en route hazards, moon angle/azimuth and shadowing. Also discuss confined area landings, crew coordination, inadvertent IMC and brownout/whiteout.
2. Conduct CAL's at an LZ which meets the special considerations for landing zones outlined in the MAWTS-1 NVD manual. The minimum number of CALs will be determined by the NSFI, NSI or MAWTS-1 instructor.
3. Conduct all TERF maneuvers.
4. Conduct a navigation route of 50 NM or greater, at or above 200 ft AGL, utilizing both a 1:250,000 and 1:50,000 map. The IUT is to remain oriented within 200 meters of the preplanned route and arrive at the final checkpoint within 1 minute. The minimum number of checkpoints will be determined by the NSFI, NSI or MAWTS-1 instructor.

Ordnance: N/A

External Support Requirements: N/A

CERTIFICATION STAGE

Certification Academic Syllabus:

1. The IUT shall present to the instructor one of the Night Systems classes listed in paragraph one of the IUT Academic syllabus, as assigned by the NSI or MAWTS-1 instructor.
2. The IUT shall pass the NSFI test, administered by the instructor, with a minimum score of 80%.

Certification Academic Syllabus: The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct night systems familiarization training and a navigation route under HLL conditions as defined by MCO P3500.14.

Goal: Evaluate the IUT's ability to instruct NVD combat capable training utilizing NVDs under HLL conditions as defined by MCO P3500.14.

Requirements:

1. The IUT shall demonstrate a thorough knowledge of the MAWTS-1 NVD manual, MCO P3500.14, MCO P3500.16, and brief and discuss the following:
 - a. The use of NVG's
 - b. Cockpit lighting
 - c. Aircraft external lighting
 - d. Crew coordination
 - e. Comfort level
 - f. Emergency procedures
 - g. NVG failures
 - h. Depth perception
 - i. Scan techniques
 - j. Inadvertent IMC
 - k. Waveoff procedures
 - l. NVG training restrictions/requirements detailed in MCO P3500.14 and MCO P3500.16.
 - m. Visual illusions
2. Review low work, pattern work, and emergency procedure operations.
3. Review single/dual engine malfunctions, simulated inadvertent IMC on landing, recovery from inadvertent IMC, hover/no hover landings, autorotations, quick stops, and high-speed low level autorotations.
4. Emphasize instructional techniques.
5. The certification flight shall be conducted in a FLIR equipped aircraft.
6. Conduct navigation using a 1:250,000 and 1:50,000 map (minimum 50 NM), remaining oriented within 200 meters of the preplanned route and arriving within 1 minute at the final checkpoint. The minimum number of checkpoints will be determined by the NSI or MAWTS-1 instructor.

Ordinance: N/A

External Support Requirements: N/A

RECERTIFICATION REQUIREMENTS:

Refresher:

1. Previously certified UH-1N NSFIs or NSIs returning to the UH-1N requiring refresher or modified refresher training as defined in MCO P3500.14 must be recertified by an NSI or MAWTS-1 instructor. Upon recertification, the NFSI designation can be made at the discretion of the squadron commanding officer. The following comprises the recertification course:
 - a. The IUT must meet all prerequisites listed previously.
 - b. The IUT must successfully complete the NSFI exam, administered by an NSI or MAWTS-1 instructor, with a minimum score of 80%.
 - c. The IUT must complete the certification stage, evaluated by an NSI or MAWTS-1 instructor.

Transition: Pilots certified as an NSI or NFSI in an aircraft other than the UH-1N, that transition to the UH-1N as defined in MCO P3500.14 must complete the entire UH-1N NSFI Certification Course.

Conversion: Pilots certified as an NSI or NFSI in an aircraft other than the UH-1N, that undergo conversion training to the UH-1N as defined in MCO P3500.14 must complete the entire UH-1N NSFI Certification Course.

UH-1N DEFENSIVE MEASURES (DM) INSTRUCTOR CERTIFICATION COURSE

Course Objective: To certify a UH-1N pilot as a Defensive Measures Instructor (DM) capable of safely conducting ground and airborne instruction of the UH-1N defensive measures flight syllabus outlined in MCO P3500.16C.

Length: IUT: 16 classroom hours, 2 sorties.
Cert: 1 hour class presentation, 1 hour test, and 2 sorties.

Notes:

1. The UH-1N DMI Course is developed by MAWTS-1. The IUT portion is designed to be instructed by a squadron DMI or MAWTS-1 instructor. Upon certification by MAWTS-1, the DMI designation may be made at the discretion of the squadron commanding officer.
2. UH-1N pilots designated as a DMI may instruct MCO 3500.16 (T&R Vol III) DACT syllabus flights.
3. The academic syllabus will be completed prior to beginning the flight syllabus in any stage.

Prerequisites:

1. DM qualified and proficient in accordance with MCO P3500.14 and MCO P3500.16.
2. Designated TERFI.
3. Designated Section Leader.
4. Designated BIP.

IUT STAGE

IUT Academic Syllabus

1. The instructor under training (IUT) shall review and be capable of presenting the following classes:
 - a. ASD Attack Helicopter Threat
 - b. MAWTS-1 FW Threat to the MAGTF
 - c. MAWTS-1 RW Threat to the MAGTF
 - d. ASD FW Threat
 - e. MAWTS-1 Anti-Air Warfare

ASD CLASSIFIED ASP
CLASSIFIED ASP
CLASSIFIED ASP
CLASSIFIED ASP
GENERIC ASP

- f. ASD IR Missiles Threat
- g. ASD Radar Missiles Threat

ASD CLASSIFIED ASP
ASD CLASSIFIED ASP

- 2. The IUT shall review and have proficient working knowledge of the following:
 - a. UH-1N TACMAN (Vol I & II)
 - b. OPNAV 3710.7
 - c. MCO P3500.14 (Vol I)
 - d. MCO P3500.16 (Vol III)
 - e. AFTTP 3-1
 - f. MAWTS-1 DACT Manual
 - g. MAWTS-1 Course Catalog (Chapter 13, DACTI section)

IUT Flight Syllabus

- 1. The syllabus consists of two (2) flights, DM 580 and DACT 581.
- 2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to instruct and conduct DACT training.

DM 580 1 UH-1N vs 1 RW Aggressor 2 A/C

Goal: 1 vs 1 RW DM maneuvers and instructional techniques.

Requirements:

- 1. Brief and discuss DM safety considerations, crew coordination, communication, and spatial and situational awareness.
- 2. Brief and discuss energy maneuverability and specific excess power considerations of adversary and friendly aircraft and related tactical considerations.
- 3. Brief and discuss air to air gunnery procedures, including range estimation, lead requirements, and TOF requirements.
- 4. Emphasis will be on error analysis and instructional technique. Additional focus will be placed on briefing, set-up, and control of the evolution.

Ordnance: N/A

External Support Requirements: One RW aggressor.

Goal: 2 vs 1 FW DM maneuvers and instructional techniques.

Requirements:

1. Brief and discuss DACT safety considerations, crew coordination, communication, and spatial and situational awareness.
2. Brief and discuss energy maneuverability of adversary and friendly aircraft and the related tactical considerations.
3. Brief and discuss operation and utilization of the Aircraft Survivability Equipment (ASE).
4. Brief and discuss section gameplan and maneuvering, as well as intra-/inter-plane communication and lookout doctrine.
5. Emphasis will be on instructional technique, flight leadership, and control of the evolution.

Ordnance: N/A

External Support Requirements: One FW aggressor.

CERTIFICATION STAGE

Certification Academic Syllabus

1. The IUT shall present to a MAWTS-1 instructor, one of the classes listed in paragraph one of the IUT academic syllabus, as determined by the MAWTS-1 instructor, before the certification flight.
2. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N DMI question bank which utilizes the references listed in paragraph two of the IUT academic syllabus.

Goal: Evaluate 2 vs 2 FW DM instructional techniques, flight leadership, and tactics during Escort Operations

Requirements:

1. Brief and discuss DM safety considerations, crew coordination, communication, and spatial and situational awareness.
2. Brief and discuss capabilities, limitations, envelopes, and weapons systems of possible adversary fixed wing aircraft and procedures to counter that threat.
3. Brief and discuss operation and utilization of ASE.
4. Brief and discuss air to air gunnery procedures, include range estimation, lead requirements, and TOF requirements.
5. Brief and discuss tactical maneuvering and intra-/inter-plane communication and lookout doctrine, with particular attention and consideration for the assault aircraft and the escort flight's responsibilities for that aircraft.
6. Brief and discuss section gameplan and tactics in relation to adversary aircraft capabilities.
7. Emphasis will be on briefing, gameplan development, instructional technique, line number set-up, section maneuvering, flight leadership, and evolution control.

Ordnance: Chaff and flares.

External Support Requirements: One assault aircraft and two FW aggressors.

RECERTIFICATION REQUIREMENTS:

Refresher:

1. Previously certified UH-1N ACMIs returning to the UH-1N requiring refresher or modified refresher training as defined in MCO P3500.14 must be recertified by MAWTS-1. Upon recertification, the DMI designation may be made at the discretion of the squadron commanding officer. Recertification will be conducted as follows:
 - a. The IUT must meet all prerequisites listed previously.
 - b. The written examination will be administered by a MAWTS-1 instructor. The

- minimum passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N DMI question bank which utilizes the references listed in paragraph 1&2 of the DMI IUT academic syllabus.
- c. The IUT must complete entire DMI syllabus. Considering the DMI course is similar in nature to the ACMI syllabus, the IUT shall fly the entire syllabus to serve as both a refresher and recertification syllabus.
2. Previously certified UH-1N DMIs returning to the UH-1N shall require recertification in the DMI syllabus by MAWTS-1. Upon certification, the DMI designation can be made at the discretion of the squadron commanding officer. Recertification will be conducted as follows:
 - a. The IUT must meet all prerequisites listed previously.
 - b. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N DMI question bank which utilizes the references listed in paragraph two of the IUT academic syllabus.
 - c. The IUT must complete the 582E and 583E sorties with a MAWTS-1 instructor. The 580 and 581 sorties may be reflown at the discretion of the squadron commanding officer, but are not required for recertification.

Transition: Pilots certified as a DMI in an aircraft other than the UH-1N, and that transition to the UH-1N as defined in MCO P3500.14, must complete the entire UH-1N DMI Certification Course.

Conversion: Pilots certified as a DMI in an aircraft other than the UH-1N, that undergo conversion to the UH-1N as defined in MCO P3500.14F, must complete the entire UH-1N DMI Certification Course.

UH-1N NIGHT SYSTEMS INSTRUCTOR (NSI) CERTIFICATION COURSE

Course Objective: To certify a UH-1N pilot as a Night Systems Instructor (NSI) capable of safely conducting ground and airborne instruction of the UH-1N night vision device (NVD) flight syllabus outlined in MCO P3500.16.

Length: IUT: 5 classroom hours and 4 sorties.

Cert: 1 hour class presentation, 1 hour NSI test, 2 hour discussion period, and 1 sortie.

Notes:

1. Despite reduction in T&R NVG hours for the NSQ designation in the sortie-based training structure, a requirement remains for aggregate experience in the aircraft to meet the standards for successful completion of the NSI certification. Experience has shown that pilots with a minimum of 90 hours NVG/40 hours LLL and three months experience as a Section Leader possess the requisite NVG flight experience and the basic foundation of flight leadership to instruct in the fleet NVG environment.
2. The UH-1N NSI Course is developed by MAWTS-1. The IUT portion is designed to be instructed by an NSI or MAWTS-1 instructor. Upon certification by a MAWTS-1 instructor, the NSI designation may be given at the discretion of the squadron commanding officer.
3. Certified NSFIs' and NSSIs' that are current may begin the NSI IUT stage at NVD 591 at the discretion of the squadron commanding officer.
4. The academic syllabus will be completed prior to beginning the flight syllabus in any stage.

Prerequisites:

1. Designated Night Systems Qualified (NSQ) LLL and proficient in accordance with MCO P3500.14 and MCO P3500.16.
2. . The following MAWTS-1 ASP classes shall be presented to the NSI IUT within 90 days of commencing the IUT flight syllabus, and will be documented in the NSI IUT's APR:
 - a. NITE LAB Night Environment NITE LAB ASP
 - b. NITE LAB NVG Adjustment Process NITE LAB ASP
 - c. NITE LAB NVG Misperceptions & Illusions NITE LAB ASP
 - d. NITE LAB FLIR Theory & Introduction NITE LAB ASP

- e. NITE LAB FLIR Systems & Image Optimization NITE LAB ASP
 - f. NITE LAB Operational Considerations & Sensor Integration NITE LAB ASP
 - g. NITE LAB NVG Ordnance Considerations NITE LAB ASP
3. Proficient working knowledge of the following:
- a. UH-1N TACMAN (VOL I and VOL II)
 - b. OPNAV 3710.7
 - c. MCO P3400.14 (T&R Vol I)
 - d. MCO P3400.16 (T&R Vol III)
 - e. MCWP 3-23 (OAS)
 - f. MCWP 3-23.1 (CAS)
 - g. MCWP 3-23.2 (DAS)
 - h. MCWP 3-11.4 (TAC Fund of Helo Ops)
 - i. Joint Pub 3-09.3 (J-CAS)
 - j. Joint Pub 3-09.1 (J-Laser)
 - k. MCRP 3-23A (JAAT)
 - l. MAWTS-1 Course Catalog
 - m. MAWTS-1 NVD Manual
 - n. Star Safire and Safire Manuals
4. Designated Section Leader.
5. Designated FAC(A).
6. Designated Weapons Training Officer (WTO)

IUT STAGE

IUT Academic Syllabus

1. The instructor under training (IUT) shall review and be capable of presenting all NITE LAB classes from the NITE LAB disc of the MAWTS-1 ASP.

IUT Flight Syllabus:

1. The squadron will ensure that the IUT is prepared for certification. The certification flight must be complete within six (6) months following the first IUT flight. If six months have elapsed since completion of any IUT flight, that flight must be reflight prior to completing the certification flight.
2. The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct night systems and tactical operations in the HLL and LLL environments.

3. The following flights will be instructed by a squadron NSI or MAWTS-1 instructor.
4. Two of the four IUT flights (590, 591, 592 and 593) shall be conducted under LLL conditions.
5. To the maximum extent possible, one of the 592, 593, or 594E syllabus sorties will be a night tactical helicopter escort mission. Emphasis will be on detailed fire support planning/integration of supporting arms and EFL considerations for assault support aircraft.
6. NVD 590 and 591 may be flown during the same sortie at the discretion of the squadron commander.

NVD 590	1 UH-1N	N
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Goal: Demonstrate the ability to instruct low work, FAM maneuvers, simulated emergencies, and shipboard operations utilizing NVDs under HLL or LLL conditions as defined by MCO P3500.14.

Requirements:

1. Conduct low work, FAM maneuvers, and simulated emergencies with an emphasis on instructional technique and execution. Emergency procedures shall include simulated single engine malfunctions, autorotations, quick stops, and high-speed low level autorotations.
2. Conduct shipboard operations (deck land qualifications or FCLPs) with an emphasis on instructional techniques and crew coordination. Brief and discuss shipboard flight operations emphasizing communication procedures, patterns, and aviation operations in the shipboard environment.
3. Brief and discuss NVD emergencies, safety considerations, NVD training restrictions/requirements, ANVIS operation and limitations, depth perception, visual illusions, NVD lighting, crew coordination and inadvertent IMC.
4. Brief and discuss FLIR switchology, operation and employment, laser utilization, and NVG HUD operation and employment.

Ordnance: N/A

External Support Requirements: N/A

Goal: Demonstrate the ability to instruct NVD navigation and confined area landings utilizing NVDs under HLL or LLL conditions as defined by MCO P3500.14. The emphasis will be on briefing, instructional technique and use of the FLIR.

Requirements:

1. The IUT shall fly this sortie with a FLIR equipped aircraft.
2. Brief and discuss NVD preparation and adjustment, NVD emergencies and failures, FLIR optimization techniques, LASER employment, FLIR failures and trouble shooting techniques for NVDs and FLIR.
3. Brief and discuss NVD lighting techniques, crew coordination, comfort level, map preparation, NVD navigation, and NVD training restrictions.
4. Brief and discuss basic infrared theory, manipulating thermal scene variables, cockpit switchology, FLIR operation, and FLIR navigation.
5. The IUT shall navigate along a predetermined route (50 NM minimum) utilizing 1:250,000 and 1:50,000 scale maps. The IUT shall remain oriented within 200 meters of the preplanned route and arrive at the final checkpoint within one minute of the preplanned time.
6. Conducted a minimum of 5 confined area landings.

Ordnance: N/A

External Support Requirements: N/A

Goal: Demonstrate the ability to instruct tactical formation flight and ordnance delivery in a low threat environment utilizing NVDs under HLL or LLL conditions as defined by MCO P3500.14.

Requirements:

1. IUT shall fly this sortie in a FLIR equipped aircraft.
2. Brief and discuss NVD ordnance delivery techniques, attack patterns, tactical formations, as well as target acquisition, identification, and engagement using

night systems. Ordnance will include rocket delivery, forward fire gun and crew served weapons.

3. Brief and discuss NVD tactical considerations, lead changes, IMC procedures, formation principles (tactical breakups and rendezvous), evasive actions, use of countermeasures, tactical crew coordination, EOTDA/TISP mission planning considerations, combat sights, and lost communication.
4. As dictated by the instructor-provided threat scenario, the IUT shall conduct tactical formation flight during a navigation route (minimum 50 NM) utilizing a 1:250,000 and 1:50,000 map. The IUT shall remain oriented within 200 meters and arrive within one minute of the preplanned time at the final checkpoint. A minimum of two legs as lead and two legs as the wingman are required.
5. Based on the IUT's terminal/target area analysis and the threat scenario, and utilizing either actual or simulated CAS and/or indirect fires, the IUT shall discuss, brief and employ tactics appropriate to the threat and in accordance with current UH-1N Tactical Manual procedures.
6. The IUT shall demonstrate tactical FLIR employment and conduct the debrief (using the mission video) to the instructor. NVG HUD operations and employment will be performed and discussed.
7. The emphasis will be placed on instructional techniques in regards to NVD flight tactics, section/flight control, FLIR employment, and accurate ordnance delivery.

Ordnance: Four 2.75" FFAR, 200rds .50 CAL, 750rds 7.62mm

External Support Requirements: N/A

NVD 593 2 or more UH-1N N

Goal: Demonstrate the ability to instruct NVD tactical formation flight, CALs, and navigation in a tactical scenario under LLL conditions as defined in MCO P3500.14.

Requirements:

1. The IUT shall fly this sortie in a FLIR-equipped aircraft.
2. Brief and discuss NVD LLL considerations, current Marine Corps' NVD directives, inadvertent IMC procedures, navigation techniques, illusions of terrain flight, and aircrew coordination.
3. Brief and discuss Safire and Star Safire FLIR components, operation and employment in a tactical environment.

4. The IUT shall demonstrate his instructional technique while conducting two plane (minimum) NVG navigation, confined area landings and tactical formation flight in a tactical scenario. During the tactical scenario, the IUT, using 1:250,000 and a 1:50,000 maps, shall navigate a route (50 NM minimum) and remain oriented within 200 meters and arrive within one minute of the preplanned time at the final checkpoint. A minimum of two CALs and one in-flight lead change will be conducted during the tactical scenario. A minimum of two CALs and one in-flight lead change will be executed after the completion of the tactical scenario to emphasize instructional technique.
5. Brief and discuss MCO P3500.14 and MCO P3500.16 as they apply to NVD operations, crew coordination, comfort level, in-flight lead changes, rendezvous procedures, tactical maneuvers, inadvertent IMC procedures, wave-offs, NVG formation flight, NVG lighting, NVG emergencies, NVG map preparation and the navigation route in detail.

Ordinance: N/A

External Support Requirements: N/A

CERTIFICATION STAGE

Certification Academic Syllabus

1. The IUT shall present to a MAWTS-1 instructor one of the classes from the NVD disc of the MAWTS-1 ASP, prior to the certification flight.
2. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N NSI question bank which utilizes the references listed in paragraphs two and three of the IUT academic syllabus.
3. The IUT shall complete a two hour discussion period prior to the certification flight.
4. The certification sortie must utilize both GCE and MACCS agencies (actual or notional).

Certification Flight Syllabus

1. The syllabus consists of one (1) sortie, NVD 594E.
2. The IUT shall plan brief, lead, debrief, and demonstrate the ability of instruct and conduct night systems and tactical operations in the LLL environment.

3. The certification flight shall be conducted under LLL conditions as defined in MCO P3500.14.
4. The certification flight must be flown within six (6) months of the first IUT flight. If six months have elapsed since the completion of any IUT flight, that IUT sortie must be reflown prior to completing the certification stage.

NVD 594E

2 or more UH-1N

N

Goal: Evaluate the IUT's ability to plan, brief, instruct, lead, and debrief a tactical flight to include ordnance delivery in either a low, medium, or high threat environment utilizing NVDs.

Requirements:

1. The IUT shall fly this sortie in a FLIR equipped aircraft.
2. Brief and discuss NVD LLL considerations, current Marine Corps NVD directives, inadvertent IMC procedures, navigation techniques, illusions of terrain flight, and aircrew coordination. Include NVD ordnance delivery procedures, attack patterns, tactical formations and movement within the objective area, and target area mechanics and flow. Ordnance shall include rocket delivery and crew served weapons employment.
3. Brief and discuss NVD LLL considerations, mission planning considerations, NVD tactical considerations, lost communication, combat sights, and crew coordination, as they apply to ordnance delivery.
4. Brief/discuss UH-1N Night Systems, components, operation and employment in a tactical environment.
5. As dictated by the instructor-provided threat scenario, the IUT shall conduct tactical formation flight during a navigation route (minimum 50 NM) utilizing a 1:250,000 and 1:50,000 map. The IUT shall remain oriented within 200 meters and arrive within one minute of the preplanned time at the final checkpoint.
6. Utilizing either actual or simulated CAS, artillery, or NSFS, the IUT shall discuss, brief, and employ tactics appropriate to the threat and in accordance with current UH-1N Tactical Manual procedures.
7. The IUT shall emphasize terminal area target analysis and weaponeering in the execution of this flight, as well as EOTDA mission planning considerations.
8. Emphasis will be placed on the IUT's ability to thoroughly instruct tactical flights,

conduct accurate ordnance delivery, and demonstrate flight leadership skills.

Ordnance: Seven 2.75" FFAR, 200rds .50 CAL, 750rds 7.62mm

External Support Requirements: N/A

RECERTIFICATION REQUIREMENTS:

Refresher:

1. Previously certified UH-1N NSI's returning to the UH-1N requiring refresher or modified refresher training as defined in MCO P3500.14F must be recertified by a MAWTS-1 instructor. Upon recertification, the NSI designation can be made by the squadron commanding officer. The following comprises the recertification course.
 - a. The IUT must meet all prerequisites listed previously.
 - b. The written examination will be administered by a MAWTS-1 instructor. The minimum-passing grade for the exam is 80%. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month. The exam will be computer generated from the UH-1N NSI question bank which utilizes the references listed in paragraph two of the IUT academic syllabus.
 - c. The IUT must complete the NVD 594E flight evaluated by a MAWTS-1 instructor.
2. Previously certified Phase I, Phase II, Phase III instructors and NSFIs must complete the entire UH-1N NSI certification course as listed.

Transition: Pilots certified as an NSI in an aircraft other than the UH-1N, that transition to the UH-1N as defined in MCO P3500.14 must complete the entire UH-1N NSI Certification Course previously listed.

Conversion: Pilots certified as an NSI in an aircraft other than the UH-1N that undergo conversion training to the UH-1N as defined in MCO P3500.14 must complete the entire UH-1N NSI Certification Course previously listed.

UH-1N PILOT TRAINING MATRIX

EVENT	DATE	INSTRUCTOR
COMBAT READY		
CONFINED AREA LANDINGS		
CAL 200		
CAL 201		
CAL 202		
ASD TAC A/C COORD CONSID.		
MAWTS-1 EOTDA		
DECK LANDING QUALIFICATION		
SDLQ 210		
DLQ 211		
DLQ 212		
TACTICAL NAVIGATION		
UH-1N CDNU OPS		
TNAV 220		
TNAV 221		
TNAV 222		
ASD PFPS		
AIR-TO-GROUND ORDNANCE DELIVERY		
UH-1N BCWD		
SAG 230		
AG 231		
AG 232		
AG 233		
AG 234		
UH-1N ROCKETS		
MAWTS-1 MAGTF FSCM & COORD		
ELECTRONIC WARFARE		
ASD ASE		
SEW 240		
EW 241		
ESCORT		
ASD ESC TACTICS		
ASD EVASIVE MANEUVERS		
ESC 250		
ESC 251		
ASD CONVOY ESCORT		
NIGHT VISION DEVICE		
UH-1N FLIR OPERATION		
UH-1N HUD CBT		
NVD 270		
NVD 271		
NVD 252		
FORWARD AIR CONTROLLER		
SFAC 280		
FAC 281		
FAC 282		
FAC(A) ARTILLERY CFF		
FAC(A) NSFS CFF		
FAC(A) BASICS		
FAC(A) HELO LOW THREAT TTP		
FAC(A) HELO MED/HI THREAT TTP		
TACTICS		
UH-1N OBJ AREA PLANNING		
UH-1N SECTION TACTICS		
TAC 290		
TAC 291		
UH-1N RECON		
GENERAL SUPPORT ACADEMICS		
UH-1N ARC-210 CBT		
UH-1N CDNU CBT		
ASD MISSION PLANNING		
ASD TAC BRIEFING & DEBRIEFING		

NAME: _____

EVENT	DATE	INSTRUCTOR
ASD ACEOI(AKAC)/ATO		
MAWTS-1 MACCS BASICS		
MAWTS-1 MCPP		
MAWTS-1 INTEL SPPT TO MSN		
COMBAT QUALIFIED		
ADVANCED NIGHT SYSTEMS QUALIFIED		
ANSQ 310		
ANSQ 311		
ANSQ 312		
NITE LAB TAC IN THE NT ENVIRON		
HELICOPTER INSERTION & EXTRACTION		
FAST ROPE OPERATIONS		
RAPPEL OPERATIONS		
HIE 320		
HIE 321		
DECK LANDING QUALIFICATION		
DLQ 330		
DLQ 331		
DLQ 332		
ESCORT		
ESC 340		
ESC 341		
FARP OPERATIONS		
ASD HELO ASSLT KEY PLAYERS		
DEFENSIVE MEASURES		
DM 350		
DM 351		
HELO Ps/EM		
UH-1N AIR-TO AIR CONSID		
FORWARD AIR CONTROLLER		
FAC 360		
FAC 361		
FAC 362		
MAWTS-1 MAGTF TGT & F. S. PLAN		
FAC(A) OAS PGMs		
FAC(A) FW/RW OAS INTEG		
FAC(A) PLAN & PREP		
FAC(A) & TAC(A) EMPLOY		
FAC(A) HELO NIGHT TTP		
AIR-TO-GROUND ORDNANCE DELIVERY		
AG 370		
AG 371		
ASD URBAN CAS		
TACTICS		
TAC 380		
TAC 381		
TAC 382		
MAWTS-1 TRAP PLANNING		
ASD EXECUTION CHECKLIST		
GENERAL SUPPORT ACADEMICS		
BASIC RADAR PRINCIPLES		
ASD AAA THREAT		
ASD IR SAM THREAT		
ASD RADAR SAM THREAT		
MAWTS-1 CNTL OF ACFT &		
MAWTS-1 AVN SPPT OF THE		
ATTACK HELO THREAT		
MOUT		

SSN: _____

UH-1N PILOT TRAINING MATRIX

EVENT	DATE	INSTRUCTOR
FULL COMBAT QUALIFIED		
HELO INSERTION EXTRACTION		
HIE 400		
HIE 401		
HIE 402		
SPIE OPERATIONS		
HELOCAST OPERATIONS		
AIR-TO-AIR GUNNERY		
SAAG 410		
AAG 411		
MOUNTAIN AREA TACTICS		
MAT 420		
MAT 421		
NUCLEAR, BIOLOGICAL, CHEMICAL		
SNBC 430		
NBC 431		
DEFENSIVE MEASURES		
DACT 440		
DACT 441		
DACT 442		
UH-1N DACT TRAINING		
FW THREAT TO ASSAULT		
TAOC		
INSTRUCTOR TRAINING		
BASIC INSTRUCTOR PILOT		
SBIP 500		
BIP 501		
SBIP 502		
BIP 503		
BIP 504		
BIP 505		
TERRAIN FLIGHT INSTRUCTOR		
TERF 510		
TERF 511		
WEAPONS TRAINING OFFICER		
WTO 520		
WTO 521		
FAC(A) INSTRUCTOR		
FAC 540		
FAC 541		
DM INSTRUCTOR		
DM 580		
DM 581		
DM 582		
NIGHT SYSTEMS INSTRUCTOR		
NSI 590		
NSI 591		
NSI 592		
NSI 593		
NSI 594E		

EVENT	DATE	INSTRUCTOR
REQUIREMENTS, QUALIFICATIONS & DESIGNATIONS		
QUALIFICATIONS		
UTILITY HELICOPTER COMMANDER		
UHC 390		
MAWTS-1 ROE & LAW OF WAR		
MAWTS-1 JOINT AIR OPS		
ASD RAPID RESPONSE PLAN		
ASD NEO EXECUTION		
SECTION LEADER		
FL 391 SLUI		
MAWTS-1 MCPP		
MAWTS-1 MAGTF FSCM & COORD.		
MAWTS-1 INTEL SPPT TO MSN PLAN		
ASD TAC BRIEFING & DEBRIEFING		
DIVISION LEADER		
FL 392 DLUI		
MAWTS-1 ACE BATTLE STAFF PLAN		
MAWTS-1 ROE & LAW OF WAR		
MAWTS-1 AVN ISO THE MAGTF		
ASD OBJ AERA PLAN & BRIEFING		
FLIGHT LEADER		
RQD 602 FLUI		
MAWTS-1 JOINT AIR OPERATIONS		
MAWTS-1 TRAP PLANNING		
ASD EXECUTION CHECKLIST		
ASD NEO EXECUTION		
TAC(A)		
RQD 604 TAC(A) UI		
AIR MISSION COMMANDER		
RQD 605 AMCUI		
MAWTS-1 CNTL OF ACFT & MISSILES		
MAWTS-1 MAGTF TGT & F.S. PLAN		
ASD RAPID RESPONSE PLAN		
ASD HELO ASSLT KEY PLAYERS		

NAME: _____

SSN: _____