

# **CHAPTER SIX**

## **CH-46 SUPPLEMENTARY COURSES**



## CH-46E SPECIFIC ACADEMIC SUPPORT PACKAGE

**Course Objective:** To provide the CH-46E pilot with additional ground training as required by MCO P3500.14.

**Length:** 64 classroom hours

**Notes:**

1. The Academic Support Package (ASP) is developed by MAWTS-1 and designed to be taught by a WTI or other qualified squadron instructor. The Academic Syllabus shall be integrated into the combat ready (13 hours of academic instruction), combat qualified (30 hours of academic instruction) and fully combat qualified stages of training (12 hours of academic instruction). Classes delineated in paragraph 6 shall be conducted annually for all pilots (9 hours of academic instruction).
2. All classes 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 Familiarization (FAM) Stage, the following academic syllabus shall be completed:
    - (1) Self-Paced Readings:
      - (a) CH-46E NATOPS, Ch 4, 6, 7, 11, 12, 13, 14, 16
      - (b) CH-46E TACMAN, Vol 1, Ch 1
    - (2) Lectures:
      - (a) **Prior to Stage Completion:**
        1. CH-46 SINGARS/HAVEQUICK      **CH-46 ASP**
  - b. In direct support of the Confined Area Landings (CAL) Stage, the following academic syllabus shall be completed:
    - (1) Self-Paced Readings:
      - (a) CH-46E TACMAN, Vol 1, Ch 4.10-4.11.2

c. In direct support of the External Loads (EXT) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 2.37, 11.8, 12.5.10
- (b) CH-46E TACMAN, Vol 1, Ch 5, Ch 19.4
- (c) MCRP 4-23E, Vol I / NWP 3-04.11, Ch 1-2, 4-9

d. In direct support of the Formation Flight (FORM) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 9.1
- (b) CH-46E TACMAN, Vol 1, Ch 3

e. In direct support of the Terrain Flight (TERF) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E TACMAN, Vol 1, Ch 4

(2) Lectures:

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

- 1. ASD Terrain Flight ASD ASP

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

- 1. ASD Tactical Aircrew Coordination ASD ASP

f. In direct support of the Night Vision Devices (NVD) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 9.7
- (b) CH-46E TACMAN, Vol 1, Ch 22
- (c) MAWTS-1 NVD Manual, Ch 1-3, 5-13, 22-25

(2) Lectures:

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

- 1. NITE LAB NVG Night Environment NITE LAB ASP

2. ASD Tactics In The Night  
Environment

ASD ASP

(c) **Prior to NSQ (HLL) the following lecture shall be completed:**

1. CH-46 NVG HUD

CH-46 ASP

- g. In direct support of the Air-to-Ground (AG) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 15.4
- (b) CH-46E TACMAN, Vol 1, Ch 12, 13, 21

- h. In direct support of the Carrier Qualification (CQ) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 8, 9
- (b) LHA/LPH/LHD NATOPS, Ch 2, 3, 4, 5, 6, 7.2, 7.3, app A, D
- (c) Ships Facilities Resume

- i. In general support of the Combat Ready (200 level) phase the following lectures should be presented:

(1) Lectures:

- (a) MAWTS-1 Six Functions of Marine Aviation GENERIC ASP
- (b) MAWTS-1 FW Threat to the MAGTF GENERIC CLASSIFIED ASP
- (c) MAWTS-1 RW Threat to the MAGTF GENERIC CLASSIFIED ASP
- (d) MAWTS-1 Surface to Air Threat to the MAGTF GENERIC CLASSIFIED ASP
- (e) MAWTS-1 Marine Corps Planning Process GENERIC ASP
- (f) MAWTS-1 ACE Battle Staff Planning GENERIC ASP
- (g) MAWTS-1 Aviation in Support of the MAGTF GENERIC ASP

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

- a. In direct support of the Night Vision Devices (NVD) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) MAWTS-1 NVD Manual, Ch 14-17, 19-21

(2) Lectures:

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

- |   |              |
|---|--------------|
| 1. NITE LAB NVG Operations              | NITE LAB ASP |
| 2. NITE LAB NVD Route<br>Considerations | NITE LAB ASP |

b. In direct support of the Electronic Warfare (EW) Stage, the following academic syllabus shall be completed.

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 15.6-15.9
- (b) CH-46E TACMAN, Vol 1, Ch 14, 15, 20
- (c) CH-46E TACMAN, Vol 2, Ch 11

(2) Lectures:

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

- |                                   |             |
|-----------------------------------|-------------|
| 1. MAWTS-1 Basic Radar Principles | GENERIC ASP |
| 2. MAWTS-1 Electronic Warfare     | GENERIC ASP |

c. In direct support of the Defensive Measures (DM) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) MAWTS-1 DM Guide
- (b) CH-46E TACMAN, Vol 1, Ch 9
- (c) CH-46E TACMAN, Vol 2, Ch 6, 7

(2) Lectures:

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

- |  |                    |
|--|--------------------|
| 1. CH-46 Defensive Measures<br>Part I & II | CH-46 ASP          |
| 2. ASD Rotary Wing Evasive<br>Maneuvers    | ASD CLASSIFIED ASP |

(b) Prior to commencing DM v Ground Threat the following lectures should be presented:

- |                                |                    |
|--------------------------------|--------------------|
| 1. ASD Radar SAM Threat        | ASD CLASSIFIED ASP |
| 2. ASD IR SAM Threat           | ASD CLASSIFIED ASP |
| 3. ASD AAA Threat              | ASD CLASSIFIED ASP |
| 4. ASD AN/ALE 39 and AN/AAR 47 | ASD CLASSIFIED ASP |
| 5. ASD AN/APR 39 (V) 1         | ASD CLASSIFIED ASP |
| 6. ASD AN/ALQ 157              | ASD CLASSIFIED ASP |

d. In direct support of the Mountain Area Training (MAT) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) CH-46E NATOPS, Ch 11.12

e. In direct support of the Helicopter Insert / Extract Techniques (HIE) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) CH-46E TACMAN, Vol 1, Ch 6.1, 6.3-6.5

(2) Lectures:

(a) **Prior to commencing the applicable flights within the Helicopter Insert/Extract Techniques Stage the following classes shall be presented:**

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

f. In direct support of the Tactics (TAC) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

(a) CH-46E TACMAN, Vol 1, Ch 8, 17, 18, 19

(2) Lectures:

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

- |   |             |
|---|-------------|
| 1. ASD Tactical Briefing and Debriefing | ASD ASP     |
| 2. ASD Objective Area Planning          | ASD ASP     |
| 3. ASD Escort Tactics                   | ASD ASP     |
| 4. MAWTS-1 TRAP                         | GENERIC ASP |
| 5. ASD MOUT                             | ASD ASP     |
| 6. ASD NEO Execution                    | ASD ASP     |

- |  |                        |
|--|------------------------|
| 7. MAWTS-1 GCE Raid                    | GENERIC ASP            |
| 8. ASD Execution Checklist             | ASD ASP                |
| 9. MAWTS-1 ACEOI                       | GENERIC ASP            |
| 10. MAWTS-1 REC Threat to the<br>MAGTF | GENERIC CLASSIFIED ASP |

g. In direct support of the Nuclear, Biological, Chemical (NBC) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 2.27.3, 9.9
- (b) CH-46E TACMAN, Vol 1, Ch 7, 23

h. In general support of the Combat Qualification (300 level) phase the following additional lectures should be presented:

(1) Lectures:

- |  |                        |
|--|------------------------|
| (a) MAWTS-1 MAGTF Fire Support<br>Coordination Measures  | WTI READ AHEAD         |
| (b) MAWTS-1 MAGTF Targeting and Fire<br>Support Planning | GENERIC ASP            |
| (c) ASD Rapid Response Planning                          | ASD ASP                |
| (d) C3 MACG ISO MEU(SOC)                                 | C3 ASP                 |
| (e) MAWTS-1 ROE and the Laws of War                      | GENERIC CLASSIFIED ASP |

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

a. In direct support of the Tactics (TAC) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Reading:

- (a) CH-46E TACMAN, Vol 1, app D, E, F, G

(2) Lectures:

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

- |  |                        |
|--|------------------------|
| 1. MAWTS-1 Intelligence Support to<br>Mission Planners | GENERIC CLASSIFIED ASP |
| 2. MAWTS-1 Control of Aircraft<br>and Missiles         | WTI READ AHEAD         |
| 3. MAWTS-1 Joint Air Operations                        | GENERIC ASP            |

b. In direct support of the Defensive Measures (DM) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) MAWTS-1 DM Guide
- (b) CH-46E TACMAN, Vol 1, Ch 10, 11
- (c) CH-46E TACMAN, Vol 2, Ch 3, 8

(2) Lectures:

(a) **Prior to commencing DM v RW the following lecture shall be presented:**

1. ASD Ps/EM ASD ASP

(b) Prior to Stage Completion:

- 1. ASD Attack Helo Threat ASD CLASSIFIED ASP
- 2. ASD F/W Threat ASD CLASSIFIED ASP

c. In direct support of the Helicopter Insert / Extract Techniques (HIE) Stage, the following academic syllabus shall be completed:

(1) Self-Paced Readings:

- (a) CH-46E NATOPS, Ch 2.36
- (b) CH-46E TACMAN, Vol 1, Ch 6.2, 6.6-6.9

(2) Lectures:

(a) **Prior to commencing the applicable flights within the Helicopter Insert/Extract Techniques Stage the following lectures shall be presented:**

- 1. ASD SPIE ASD ASP
- 2. ASD Helocast ASD ASP
- 3. CH-46E Aerial Delivery CH-46 ASP
- 4. CH-46E Hoist / Rescue Operation CH-46 ASP

(3) Chalk Talks: N/A

d. In general support of the Full Combat Qualification (400 level) phase the following additional lectures should be presented:

(1) Lectures:

(a) ASD Rapid Response Planning ASD ASP

(c) ASD Helicopter Assault Key Players ASD ASP

4. The following syllabus supports the Requirements, Qualifications and Designations phase of training:

a. In direct support of the Flight Leadership (FL) Stage, the following academic syllabus shall be completed:

(1) Section Leader Syllabus:

(a) Self-Paced Readings:

1. CH-46E TACMAN, Vol 1, Ch 18, app C
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

(2) Division Leader Syllabus:

(a) Self-Paced Readings:

1. CH-46 TACMAN, Vol 1, Ch 17, app D, G
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 and Briefing ASD ASP

(3) Assault Flight Leader Syllabus:

(a) Self-Paced Readings:

1. CH-46 TACMAN, Vol 1, Ch 19, app E, F

## 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                    **GENERIC ASP**  
Aircraft and Personnel (TRAP)
3. ASD Execution Checklist                         **ASD ASP**
4. ASD NEO Execution                                **ASD ASP**

(4) Air Mission Commander Syllabus:

(a) Self-Paced Readings:

1. CH-46 TACMAN, Vol 1 and Vol 2
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 and                 **WTI READ AHEAD**  
Missiles
2. MAWTS-1 MAGTF Targeting and Fire             **GENERIC ASP**  
Support Planning
3. ASD Rapid Response Planning                   **ASD ASP**
4. ASD Helicopter Assault Key Players           **ASD ASP**

5. The following supports the Special Training syllabus:

a. In direct support of the Arctic Weather Training (AWT) Stage, the following academic syllabus should be completed:

(1) Self-Paced Reading:

- (a) CH-46E NATOPS, Ch. 13.5

b. In direct support of the Desert Operations (DES) Stage, the following academic syllabus should be completed:

(1) Self-Paced Reading:

- (a) CH-46E NATOPS, Ch. 13.4

(2) Lectures:

- (a) CH-46E Desert Landing                         **CH-46 ASP**

c. In direct support of the Water Landings (WTR) Stage, the following academic syllabus should be completed:

(1) Self-Paced Reading:

(a) CH-46E NATOPS, Ch. 9.8

d. In direct support of the Air Combat Maneuvering (ACM) Stage, the following academic syllabus should be completed:

(1) Self-Paced Reading:

(a) CH-46E TACMAN, Vol 1, Ch. 9, 10, 11

6. The following MAWTS-1 ASP classes shall be presented to all pilots annually:

- a. MAWTS-1 MAGTF Fire Support Coordination Measures **WTI READ AHEAD**
- b. MAWTS-1 TRAP **GENERIC ASP**
- c. ASD Objective Area Planning **ASD ASP**
- d. ASD Tactical Aircrew Coordination **ASD ASP**
- e. ASD Mission Planning **ASD ASP**
- f. ASD AAA Threat **ASD CLASSIFIED ASP**
- g. ASD IR SAM Threat **ASD CLASSIFIED ASP**
- h. ASD Radar SAM Threat **ASD CLASSIFIED ASP**
- i. ASD ASE **ASD CLASSIFIED ASP**

## **CH-46D NIGHT SYSTEMS SAR INSTRUCTOR (NSSI) CERTIFICATION COURSE**

**Course Objective:** To certify a CH-46D pilot as a Night Systems SAR Instructor (NSSI) capable of safely conducting ground and airborne instruction of the Night Vision Goggles (NVG) flight syllabus outlined in MCO P3500.50.

**Length:** IUT: 6 Classroom hours, 2 sorties  
Cert: 1 hour class presentation, 1 hour NSSI exam, and 1 sortie.

### **Notes:**

1. The CH-46D NSSI Course is developed by MAWTS-1. The IUT portion is designed to be instructed by an NSSI, NSI or MAWTS-1 instructor. Upon certification by an NSI or MAWTS-1 instructor, the NSSI designation may be made at the discretion of the squadron commanding officer.
2. Previously certified and current CH-46E Night Systems Instructors (NSIs) may be designated as an NSSI at the discretion of the commanding officer. The CH-46D NSSI Certification Course is not required.

### **Prerequisites:**

1. Designated SAR Helicopter Aircraft Commander.
2. Night System Qualified (NSQ) and proficient in accordance with MCO P3500.14 and MCO P3500.50.
3. Proficient in FCLP-422

### **IUT STAGE**

#### **IUT Academic Syllabus:**

1. The instructor under training (IUT) shall review and have proficient working knowledge of the following:
  - a. OPNAV 3710.7
  - b. MCO P3500.14 (T&R Vol I)
  - c. MCO P3500.50 (T&R Vol III)
  - d. MAWTS-1 Course Catalog
  - e. MAWTS-1 NVD Manual
2. The Instructor Under Training (IUT) shall review and be capable of presenting the following classes:
  - a. NITE LAB NVG Human Visual System
  - c. NITE LAB NVG Introduction to Night

NITE LAB ASP  
NITE LAB ASP

- Vision Goggles
- d. NITE LAB NVG Misperceptions and Illusions NITE LAB ASP
  - e. NITE LAB NVG Adjustment Procedures NITE LAB ASP
  - f. NITE LAB NVG Night Operations NITE LAB ASP
  - g. NITE LAB NVG Route Considerations NITE LAB ASP

3. The IUT Academic Syllabus will be completed within 60 days prior to beginning the IUT Flight syllabus.

**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 re-flown prior to completing the final certification flight.
2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to conduct and instruct night vision goggle operations.
3. The following flights shall be instructed by an NSSI, NSI, or MAWTS-1 instructor:

NVD 550	1 CH-46D	N	NS
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**Goal:** Conduct low work, pattern work, FAM maneuvers, FCLPs, and simulated emergencies under HLL or LLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Brief and discuss the use of NVGs, cockpit lighting, aircraft external lighting, crew coordination, comfort level, situational awareness, emergency procedures, NVG failures, depth perception, scan techniques, visual illusions, inadvertent IMC, wave off procedures, NVG training restrictions/requirements detailed in MCO P3500.14 and MCO P3500.50, FAM maneuvers, FCLPs, and NVG shipboard operations.
2. The IUT shall conduct, with an emphasis on instructional technique, low work, FAM maneuvers, FCLPs and simulated emergencies. **Ordinance:** N/A

**External Support Requirements:** FCLP pad/spot

NVD 551	1 CH-46D	N	NS
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**Goal:** Conduct CALs and navigation while utilizing NVGs under LLL conditions as defined by MCO P3500.14.

## **Requirements:**

1. Brief and discuss crew coordination, comfort level, NVG considerations, NVG CAL techniques, LZ Lighting, brownout/whiteout, NVG navigation techniques, NVG map preparation, NVG route cards, en-route hazards, and inadvertent IMC.
2. The IUT shall demonstrate, with emphasis on instructional technique, confined area landings and navigation of a route (50NM or greater) at or above 200 feet AGL. The IUT shall utilize both 1:250,000 and 1:50,000 scale maps and remain oriented within 200 meters. The number of CALs and checkpoints will be determined by the NSSI, NSI or MAWTS-1 instructor.

**Ordinance:** N/A

**External Support Requirements:** N/A

## **CERTIFICATION STAGE**

### **Certification Academic Syllabus**

1. The IUT shall present to the NSI or MAWTS-1 instructor one of the classes per paragraph two of the Academic Syllabus before completing the certification stage of the flight syllabus. Presentation of the class shall be annotated in the APR.
2. The written exam 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.
3. The Certification Academic Syllabus will be completed within 60 days prior to beginning the Certification Flight Syllabus.

### **Certification Flight Syllabus**

1. The IUT'S ability to instruct night systems operations in a search and rescue environment shall be evaluated by an NSI or MAWTS-1 instructor. All certification flights shall be conducted under LLL conditions as defined by MCO P3500.14.
2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to conduct and instruct NVG missions.

NVG 552 E

1 CH-46D

N NS

**Goal:** Evaluate the IUTs ability to instruct CALs and navigation while utilizing NVGs under LLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Review brief and discussion items from NVG 550 and NVG 551.
2. The IUT shall demonstrate, with an emphasis on instructional technique, confined area landings and navigation of route (50NM or Greater) at or above 200 feet AGL. The IUT shall utilize both 1:250,000 and 1:250,000 scale maps and remain oriented within 200 meters. The NSI or MAWTS-1 instructor will determine the minimum number of CALS and checkpoints.

**Ordinance:** N/A**External Support Requirements:** N/A**RECERTIFICATION REQUIREMENTS:****Refresher/Transition/Conversion:** N/A

# CH-46E NIGHT SYSTEMS FAMILIARIZATION INSTRUCTOR (NSFI) CERTIFICATION COURSE

**Course Objective:** To certify a CH-46E pilot as a Night Systems Familiarization Instructor (NSFI) capable of safely conducting ground and airborne instruction of night vision goggle (NVG) flight during the combat capable flight phase.

**Length:** IUT: 8 Classroom hours, 2 sorties  
Cert: 1 hour class presentation, 1 hour NSFI exam, and 1 sortie.

## Notes:

1. The CH-46E NSFI Course is developed by MAWTS-1 and supports the certification of NSFIs for the fleet replacement squadron only. The IUT portion is designed to be instructed by an NSFI, NSI, 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 CH-46E NSIs, not requiring refresher training, may be designated as an NSFI at the discretion of the squadron 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.

## Prerequisites:

1. Night System Qualified (NSQ) and proficient per MCO P3500.14 and MCO P3500.50.
2. Designated FAM instructor.

## IUT STAGE

### IUT Academic Syllabus:

1. The instructor under training (IUT) shall review and have proficient working knowledge of the following:
  - a. OPNAV 3710.7
  - b. MCO P3500.14 (T&R Vol I)
  - c. MCO P3500.50 (T&R Vol III)
  - d. MAWTS-1 Course Catalog
  - e. MAWTS-1 NVD Manual

2. The instructor under training (IUT) shall review and be capable of presenting the following classes:
  - a. NITE LAB NVG Human Visual System NITE LAB ASP
  - b. NITE LAB NVG Night Environment NITE LAB ASP
  - c. NITE LAB Introduction to NVGs NITE LAB ASP
  - d. NITE LAB NVG Misperceptions and Illusions NITE LAB ASP
  - e. NITE LAB NVG Adjustment Procedures NITE LAB ASP
  - f. NITE LAB NVG Night Operations NITE LAB ASP
  - g. NITE LAB NVG Route Considerations NITE LAB ASP
  - h. CH-46 NVG HUD CH-46 ASP
  
3. The IUT Academic Syllabus will be completed within 60 days prior to beginning the IUT Flight syllabus.

**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 to conduct and instruct combat capable NVG training.
3. The following flights shall be instructed by an NSFI, NSI, or MAWTS-1 instructor:

NVD 560	1 CH-46E	N	NS
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**Goal:** Conduct low work, pattern work, FAM maneuvers, and simulated emergencies under HLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Brief and discuss the use of NVGs, NVG adjustment and preflight procedures, aircraft lighting, crew coordination, comfort level, situational awareness, NVG failures, depth perception, visual illusions, light pollution, emergency procedures, scan techniques, inadvertent IMC, wave off procedures, training requirements/restrictions detailed in MCO P3500.14 and MCO P3500.50, and FAM maneuvers.
2. The IUT shall conduct, with an emphasis on instructional technique low work, FAM maneuvers, and simulated emergencies.

**Ordinance:** N/A

**External Support Requirements:** N/A

**Goal:** Conduct CALs and navigation above 200 feet AGL utilizing NVGs under HLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Brief and discuss NVG map preparation, NVG route cards, NVG navigation techniques, NVG considerations, enroute hazards, aircraft lighting, crew coordination during navigation, crew comfort level, inadvertent IMC, on board navigation systems, NVG CAL considerations, LZ selection, LZ lighting, wave off procedures, and brownout/whiteout.
2. The IUT shall conduct, with an emphasis on instructional technique, confined area landings and navigation of a route (50NM or greater) at or above 200 feet AGL. The IUT shall utilize both 1:250,000 and 1:50,000 scale maps and remain oriented within 200 meters and arrive at the final check point/LZ within +/- 30 seconds. The NSFI, NSI or MAWTS-1 instructor will determine the minimum number of CALs and checkpoints.

**Ordnance:** N/A

**External Support Requirements:** N/A

## **CERTIFICATION STAGE**

### **Certification Academic Syllabus**

1. The IUT shall present to an NSI or MAWTS-1 instructor one of the classes per paragraph two of the Academic Syllabus before completing the certification stage of the flight syllabus. Presentation of the class shall be annotated in the APR.
2. An NSI or MAWTS-1 instructor will administer the written exam. 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.
3. The Certification Academic Syllabus will be completed within 60 days prior to beginning the Certification Flight Syllabus.

### **Certification Flight Syllabus**

1. The IUT'S ability to instruct night systems operations under HLL conditions as defined by MCO P3500.14 shall be evaluated by an NSI or MAWTS-1 instructor.
2. The IUT shall plan, brief, lead, debrief, and demonstrate the ability to conduct and instruct NVG combat capable training.

**Goal:** Evaluate the IUTs ability to instruct combat capable NVG training under HLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Review brief and discussion items from NVD 560 and NVD 561.
2. The IUT shall demonstrate, with an emphasis on instructional technique, low work, pattern work, FAM maneuvers, and simulated emergencies.
3. The IUT shall demonstrate, with an emphasis on instructional technique, confined area landings and navigation of a route (50NM or greater) at or above 200 AGL. The IUT shall utilize both 1:250,000 and 1:50,000 scale maps and remain oriented within 200 meters and arrive at the final checkpoint/LZ within +/- 30 seconds. The NSI or MAWTS-1 instructor will determine the minimum number of CALS and checkpoints.

**Ordnance:** N/A

**External Support Requirements:** N/A

**RECERTIFICATION REQUIREMENTS:**

**Refresher:**

1. Previously certified CH-46E NSFIs or NSIs returning to the CH-46E requiring refresher or modified refresher training as defined in MCO P3500.14 must be recertified by an NSI or MAWTS-1 instructor respectively. Upon recertification, the NFSI designation may be made at the discretion of the squadron commanding officer. The following comprises the recertification course:
  - a. The Refresher must meet all prerequisites listed previously.
  - b. The Refresher must successfully complete the certification stage (both the academic and flight portions with the exception of the class presentation).

**Transition:** Pilots certified as an NSI or NSFI in an aircraft other than the CH-46E, that transition to the CH-46E as defined in MCO P3500.14 must be complete the entire CH-46E NSFI certification course.

**Conversion:** Pilots certified as an NSI or NSFI in an aircraft other than the CH-46E, that undergo conversion training to the CH-46E as defined in MCO P3500.14 must be complete the entire CH-46E NSFI Certification Course.

## CH-46E TERRAIN FLIGHT INSTRUCTOR (TERFI) CERTIFICATION COURSE

**Course Objective:** To certify the CH-46E pilot as an instructor capable of safely conducting instruction of the CH-46E terrain flight syllabus per MCO P3500.50.

**Length:** IUT: 5 Classroom hours, 2 sorties.  
Cert: 1 hour class presentation, 1 hour TERFI exam, and 1 sortie.

**Notes:** The CH-46E TERFI Course is developed by MAWTS-1. The IUT stage is designed to be instructed by a TERFI. Upon certification by a TERFI, the TERFI designation may be made at the discretion of the squadron commanding officer.

### Prerequisites:

1. TERF qualified and proficient in accordance with MCO P3500.14 and MCO P3500.50
2. Completion of the EXT-391 (TERF external) sortie.
3. Designated section leader.

### IUT STAGE

#### IUT Academic Syllabus:

1. The instructor under training (IUT) shall review and have proficient working knowledge of the following:
  - a. CH-46 TACMAN (VOL I and II)
  - b. MCO P3500.14 (T&R Vol I)
  - c. MCO P3500.50 (T&R Vol III)
2. The instructor under training (IUT) shall review and be capable of presenting the following classes from the MAWTS-1 ASP:
  - a. ASD Terrain Flight ASD ASP
  - b. ASD Tactical Aircrew Coordination ASD ASP
  - c. ASD IR SAM Threat ASD CLASSIFIED ASP
  - d. ASD Radar SAM Threat ASD CLASSIFIED ASP
  - e. ASD AAA Threat ASD CLASSIFIED ASP
3. The IUT Academic Syllabus will be completed within 60 days prior to beginning the IUT Flight syllabus.

#### IUT Flight Syllabus:

1. The squadron will ensure that the IUT is prepared for certification. The certification 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 reflown prior to completing the final certification flight.

2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to conduct and instruct TERF operations.
3. The following flights shall be instructed by a qualified and proficient TERFI:

TERF 570 1 CH-46E D

**Goal:** Demonstrate the ability to conduct all terrain flight maneuvers and terrain flight/maneuvers while flying with an external load, emphasizing instructional techniques.

**Requirements:**

1. Brief and discuss crew coordination, comfort level, performance checks, masking/unmasking, quick stops, bunts, rolls, low level and contour profiles, voice and visual signals, flight envelopes of various loads, pilot induced/assisted oscillations, cargo jettison procedures, low altitude emergencies, single/dual engine operations (with or without a load), illusions of terrain flight and HST requirements.
2. The IUT shall demonstrate, with an emphasis on instructional technique, performance checks, masking/unmasking, contour/low level quick stops, bunts, rolls, low level and contour profiles, low altitude emergencies, crew coordination, TERF maneuvers with external loads emphasizing requirements for early initiation of maneuvers and flight profile corrections to prevent pilot induced/assisted oscillations.
3. The IUT shall conduct a minimum of 2 hookups and deliveries, navigating a route with the load for a minimum number of checkpoints determined by the TERFI.

**Ordnance:** N/A

**External Support Requirements:** HST and external load.

TERF 571 2 CH-46E D

**Goal:** Demonstrate the ability to instruct flight navigation in the contour profile and tactical formation in the TERF environment.

**Requirements:**

1. Brief and discuss TERF navigation techniques, crew coordination, comfort level, common terminology, enroute hazards, employment of onboard navigation systems, map preparation, low altitude emergencies, weapons and ALE/AAR/APR employment, and the illusions of TERF flight.

2. Review operational power checks, TERF turns, rolls, contour/low level quick stop, bunts, low level and contour profiles, and low altitude emergencies.
3. The IUT shall demonstrate, with an emphasis on instructional techniques, TERF navigation and tactical formation in the contour and low level environments. The IUT shall navigate utilizing the 1:250,000 scale and 1:50,000 scale map, remaining oriented within 200 meters and arriving at the final checkpoint/LZ within +/- 30 seconds of the planned time. The route shall be a minimum of 30 NM in the contour/low level mode. The minimum number of checkpoint will be determined by the TERFI.

**Ordnance:** N/A

**External Support Requirements:** N/A

## **CERTIFICATION STAGE**

### **Certification Academic Syllabus:**

1. The IUT shall present to a TERFI or MAWTS-1 instructor one of the classes per paragraph two of the Academic Syllabus before completing the certification stage of the flight syllabus. Presentation of the class shall be annotated in the APR.
2. A TERFI or MAWTS-1 instructor will administer the written exam. The minimum passing grade for the exam is 80% and will be documented in the APR. In the event of an exam failure, the certification will be terminated and another attempt will not be allowed for at least one month.
3. The Certification Academic Syllabus will be completed within 60 days prior to beginning the Certification Flight Syllabus.

### **Certification Flight Syllabus:**

1. The IUTs ability to instruct TERF operations in accordance with MCO P3500.14 and MCO P3500.50 shall be evaluated by a TERFI
2. The IUT shall plan, brief, lead, debrief, and demonstrate the ability to conduct and instruct TERF operations.

TERF 572 E

2 CH-46E

D

**Goal:** Evaluate the IUTs ability to perform and instruct all phases of terrain flight and terrain flight navigation.

### **Requirements:**

1. Brief and discuss crew coordination, comfort level, performance checks, masking/unmasking, quick stops, bunts, rolls, low level and contour profiles, low

altitude emergencies, illusions of terrain flight, TERF navigation techniques, common terminology, enroute hazards, employment of onboard navigation systems, map preparation, weapons and ALE/AAR/APR employment.

2. The IUT shall demonstrate the ability to instruct performance checks, masking/unmasking, contour/low level quick stops, bunts, rolls, low level and contour profiles, low altitude emergencies, TERF navigation, and tactical formation in the contour and low level environments. The IUT shall navigate utilizing the 1:250,000 and the 1:50,000 scale map, remaining oriented within 200 meters and arriving at the final check point/LZ within +/- 30 seconds of the planned time. The route shall be a minimum of 30 NM in the contour mode. The minimum number of checkpoints shall be determined by the TERFI.

**Ordnance:** N/A

**External Support Requirements:** N/A

#### **RECERTIFICATION REQUIREMENTS:**

##### **Refresher:**

1. Previously certified CH-46 TERFIs returning to the CH-46E requiring refresher or modified refresher training as defined in MCO P3500.14 must be recertified by a TERFI. Upon recertification, the TERFI designation may be made at the discretion of the squadron commanding officer. The following comprises the recertification course:
  - a. The Refresher must meet all prerequisites listed previously.
  - b. The Refresher must successfully complete the certification stage (both the Certification Academic Syllabus and the Certification Flight Syllabus with the exception of class presentation).

**Transition:** Pilots that transition to the CH-46E as defined in MCO P3500.14 must complete the entire CH-46E TERFI Certification Course previously listed.

**Conversion:** Pilots certified as a TERFI in an aircraft other than the CH-46E that convert to the CH-46E as defined in MCO P3500.14 must complete the entire CH-46E TERFI Certification Course previously listed.

# CH-46E DEFENSIVE MEASURES INSTRUCTOR (DMI) CERTIFICATION COURSE

**Course Objective:** To certify the CH-46E pilot as an instructor capable of safely conducting instruction of the CH-46E defensive measures syllabus per MCO P3500.14 and MCO P3500.50.

**Length:** IUT: 12 Classroom hours, 2 sorties  
Cert: 1 hour class presentation, 1 hour DMI exam, and 1 sortie.

**Notes:** The CH-46E DMI Course is developed by MAWTS-1. The IUT stage is designed to be instructed by a DMI or MAWTS-1 instructor. Upon certification by a MAWTS-1 instructor, the DMI designation may be made at the discretion of the squadron commanding officer.

## Prerequisites:

1. DM qualified and proficient in accordance with MCO P3500.14 and MCO P3500.50.
2. Successful completion of all CH-46E defensive measures sorties outlined in MCO P3500.50.
3. Designated TERFI.
3. Designated section leader.

## IUT STAGE

### IUT Academic Syllabus:

1. The Instructor Under Training (IUT) shall review the MAWTS-1 DM Guide, the CH-46E Tactical Manual (VOL I & II), and the AFTTP 3-1.
2. The IUT shall review and be capable of presenting the following classes from the MAWTS-1 Academic Support Package (ASP):
  - a. ASD Rotary Wing Evasive Maneuvers ASD ASP
  - b. CH-46 Defensive Measures (Part I and II) CH-46 ASP
  - c. ASD IR SAM Threat ASD CLASSIFIED ASP
  - d. ASD AAA Threat ASD CLASSIFIED ASP
  - e. ASD F/W Threat ASD CLASSIFIED ASP
  - f. ASD Attack Helo Threat ASD CLASSIFIED ASP
  - g. ASD ASE ASD ASP
  - h. CH-46 AN/ALE-39 and AN/AAR-47 CH-46 ASP
  - i. CH-46 AN/APR-39 CH-46 ASP
  - j. ASD AN/ALQ-157 ASD ASP



## **Requirements:**

1. Brief and discuss aircrew coordination/inter flight coordination, crew comfort level, lookout doctrine, standardized terminology, situational awareness, DM training rules, closure rate, radius of turn, energy state, use of ALE-39, APR-39, ALQ-157, and AAR-47, use of .50 caliber machine gun, DM against RW/FW aggressor, Ps/E-M, supporting roles, and RW/FW aggressor capabilities, limitations, weapons delivery envelopes and parameters.
2. The IUT shall demonstrate, with an emphasis on instructional technique, the ability to execute defensive measures (2X CH-46E) versus a RW or FW threat. This sortie should be conducted in airspace that permits the employment of expendables.
3. If a RW aggressor is used, it must be of dissimilar type and capable of forward firing ordnance delivery.

**Ordnance:** 40 flares and 20 chaff; 2 XM-218 (no ordnance).

**External Support Requirements:** One FW or RW aggressor aircraft.

## **CERTIFICATION STAGE**

### **Certification Academic Syllabus**

1. The IUT shall present to a DMI or MAWTS-1 instructor one of the classes per paragraph two of the Academic Syllabus before completing the certification stage of the flight syllabus. Presentation of the class shall be annotated in the APR.
2. A MAWTS-1 instructor will administer the written exam. 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.
3. The Certification Academic Syllabus will be completed within 60 days prior to beginning the Certification Flight Syllabus.

### **Certification Flight Syllabus**

1. The IUT's ability to instruct RW or FW Defensive Measures will be evaluated by a MAWTS-1 Instructor. If DM 581 was flown versus a RW aggressor, DM 582 shall be flown versus a FW aggressor. If DM 581 was flown versus a FW aggressor, DM 582 shall be flown versus a RW aggressor.
2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to conduct and instruct the defensive measures syllabus.

**Goal:** Evaluate the ability to instruct 2 v 1 FW/RW DM tactics in accordance with the MAWTS-1 DM guide.

**Requirements:**

1. Brief and discuss aircrew coordination/Inter flight coordination, crew comfort level, lookout doctrine, standardized terminology, situational awareness, DM training rules, closure rate, radius of turn, and energy state, use of ALE-39, APR-39, ALQ-157, and AAR-47, use of .50 caliber machine gun, DM against FW/RW aggressor, Ps/E-M, supporting roles, and FW/RW aggressor capabilities, limitations, weapons delivery envelopes and parameters.
2. The IUT shall demonstrate, with an emphasis on instructional technique, the ability to execute defensive measures versus a RW or FW threat. This sortie should be conducted in airspace that permits the employment of expendables.
3. If a RW aggressor is used, it must be of dissimilar type and capable of forward firing ordnance delivery.

**Ordnance:** 40 flares and 20 chaff; 2 XM-218 (no ordnance).

**External Support Requirements:** One FW or RW aggressor aircraft

**RECERTIFICATION REQUIREMENTS:**

**Refresher:**

1. Previously certified CH-46E DMIs or ACMIs returning to the CH-46E requiring refresher or modified refresher training as defined in MCO P3500.14 must be recertified by MAWTS-1. Upon recertification by MAWTS-1, the DMI designation may be made at the discretion of the squadron commanding officer. The following comprises the recertification course:
  - a. The Refresher must meet all prerequisites listed previously.
  - b. The Refresher must successfully complete the certification stage (both the Certification Academic Syllabus and the Certification Flight Syllabus with the exception of class presentation).

**Transition:** Pilots certified as a DMI or ACMI that transition to the CH-46E as defined in MCO P3500.14 must complete the entire CH-46E DMI certification course.

**Conversion:** Pilots certified as an DMI or ACMI in an aircraft other than CH-46E that undergo conversion training to the CH-46E as defined in MCO P3500.14 must complete the entire CH-46E DMI Certification Course.

## **CH-46E NIGHT SYSTEMS INSTRUCTOR (NSI) CERTIFICATION COURSE**

**Course Objective:** To certify a CH-46E pilot capable of safely conducting instruction of the CH-46E Night Vision Device (NVD) flight syllabus outlined in MCO P3500.50.

**Length:** IUT: 11 Classroom hours, 4 sorties  
Cert: 1 hour class presentation, 1 hour NSI exam, and 2 sorties.

### **Notes:**

1. Despite reduction in T&R NVG hours for 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 total NVG/40 hours LLL and three months experience as a division leader possess the requisite NVG flight experience and the basic foundation of flight leadership to instruct in the fleet NVG environment.
2. The CH-46E NSI certification course is developed by MAWTS-1. The IUT stage is designed to be instructed by an NSI or MAWTS-1 instructor. Upon certification by a MAWTS-1 instructor, the NSI designation may be made at the discretion of the squadron commanding officer.

### **Prerequisites:**

1. Night System Qualified (NSQ) and proficient in accordance with MCO P3500.14 and MCO P3500.50.
2. Complete and proficient in EXT-392 (NVG external) sortie outlined in MCO P3500.16.
3. Complete and proficient in CQ 301 (NVG CQ) sortie per MCO P3500.14 and MCO P3500.50.
4. Designated division leader.
5. Designated TERF instructor.

### **IUT STAGE**

#### **IUT Academic Syllabus:**

1. The instructor under training (IUT) shall review and have proficient working knowledge of the following:
  - a. CH-46E TACMAN (VOL I and VOL II)





section tactical approaches, landings and departures to a confined area, aircraft and NVG emergency procedures, and NVG training restrictions.

2. The IUT shall conduct, with an emphasis on instructional technique, NVG navigation, formation flight, section tactical approaches, and landings and departures to a confined area. 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 and arrive at the final checkpoint within +/- 30 seconds. The number of checkpoints flown as lead and wing will be determined by the NSI or MAWTS-1 Instructor.

**Ordnance:** N/A

**External Support Requirements:** N/A

NVD 593

2 CH-46E

N

NS

**Goal:** Demonstrate the ability to instruct NVG formation and navigation in a TERF environment and section confined area landings in a tactical environment in HLL or LLL conditions as defined by MCO P3500.14.

**Requirements:**

1. Brief and discuss, aircrew coordination and aircrew comfort level during NVG TERF operations, NVG TERF and TERF navigation techniques, use of on-board navigation systems, moon illumination/shadow effects, weapon preflight, standard weapons commands (voice and visual), weapon malfunctions/stoppage procedures, laser considerations/safety precautions, fields of fire, weapons conditions, current Marine Corps NVG directives, inadvertent IMC, illusions of terrain flight, tactical formation flight, movement of aircraft within the objective area, threat analysis, countertactics, C3 integration, escorts/supporting arms integration, ground scheme of maneuver, and ASE employment.
2. The IUT shall conduct with an emphasis on instructional techniques, navigation and tactical formation flight in a TERF environment, NVG Aerial Gunnery (if practical), employment of ASE, and section tactical approaches, landings and departures from a confined area. The IUT shall utilize both the 1:250,000 and a 1:50,000 scale maps. The IUT shall remain oriented within 200 meters and arrive at the final checkpoint within +/-30 seconds. The number of checkpoints as lead and wing will be determined by the NSI or MAWTS-1 Instructor.

**Ordnance:** 200 rds .50 CAL (optional); chaff and flare (optional).

**External Support Requirements:** Aerial delivered ordnance range as required.

## **CERTIFICATION STAGE**

### **Certification Academic Syllabus**

1. The IUT shall present to an NSI or MAWTS-1 instructor one of the classes per paragraph two of the Academic Syllabus before completing the certification stage of the flight syllabus. Presentation of the class shall be annotated in the APR.
2. A MAWTS-1 instructor will administer the written exam. 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.
3. The Certification Academic Syllabus will be completed within 60 days prior to beginning the Certification Flight Syllabus.

### **Certification Flight Syllabus**

1. The IUT's ability to instruct Night Systems operations in a tactical environment will be evaluated by a MAWTS-1 Instructor. All certification flights shall be conducted under LLL conditions as defined by MCO P3500.14.
2. The IUT shall plan, brief, lead, debrief and demonstrate the ability to conduct and instruct night vision goggle operations.

NVD 594 E 1 CH-46E N NS

**Goal:** Evaluate the IUTs ability to instruct low work, FAM maneuvers, single aircraft CALs, FCLPs, and external operations utilizing NVGs.

### **Requirements:**

1. The IUT shall brief and discuss aircrew coordination and aircrew comfort level during CALs, externals and shipboard landings, goggle and degoggle procedures, NVG adjustment and preflight procedures, aircraft lighting, scan techniques, vertical takeoffs/landings, hover patterns, normal approaches, situational awareness during NVG shipboard landings, aircraft and NVG emergency procedures, aircraft/deck lighting, NVG training restrictions/requirements, distance estimation, visual illusions, inadvertant IMC, light level planning calendar, NVG considerations, NVG CAL techniques, LZ lighting for external operations, common terminology for external operations, voice and visual signals, cargo jettison procedures, pendant and load illumination techniques, LZ preparation, ITG, HST requirements, ITOs during brown/white out conditions, waveoffs, and flight envelopes of various loads.
2. The IUT shall demonstrate, with an emphasis on instructional technique, low work, FAM maneuvers, simulated emergencies, NVG single aircraft confined area landings and takeoffs, NVG FCLPs, external load operations to a confined area and NVG HUD operation if available. The IUT shall complete a minimum of 2 external lifts and deliveries, placing the load within 5 meters of the intended delivery point.



- a. The Refresher must meet all prerequisites listed previously.
  - b. The Refresher must successfully complete the Certification Academic Syllabus with the exception of class presentation.
  - c. The Refresher must successfully complete the NVD 595 flight evaluated by a MAWTS-1 instructor.
2. Previously certified Phase I AND Phase II instructors must complete the entire CH-46E NSI certification course as listed.

**Transition:** Pilots certified as an NSI that transition to the CH-46E as defined in MCO P3500.14, must complete the entire CH-46E NSI Certification Course previously listed.

**Conversion:** Pilots certified as an NSI in an aircraft other than the CH-46E that convert to the CH-46E as defined in MCO P3500.14 must complete the entire CH-46E NSI Certification Course previously listed.

## CH-46E TRAINING SYLLABUS

EVENT	DATE	INSTRUCTOR
<b>COMBAT READY</b>		
<b>FAMILIARIZATION</b>		
SFAM 200		
FAM 201		
FAM 202		
CH-46 SINGGARS/HAVEQUICK		
<b>CONFINED AREA LANDINGS</b>		
SCAL 210		
CAL 211		
CAL 212		
CAL 213		
<b>EXTERNAL CARGO OPERATIONS</b>		
SEXT 220		
EXT 221		
<b>FORMATION FLIGHT</b>		
SFORM 230		
FORM 231		
<b>TERRAIN FLIGHT</b>		
ASD TERRAIN FLIGHT		
STERF 240		
TERF 241		
TERF 242		
TERF 243		
ASD TACTICAL AIRCREW COORD		
<b>NIGHT VISION GOGGLES (HLL)</b>		
NITE LAB NIGHT ENVIRONMENT		
ASD TACTIC IN THE NIGHT		
SNVG 250		
NVG 251		
NVG 252		
NVG 253		
NVG 254		
NVG 255		
NVG 256		
NVG 257		
CH-46 NVG HUD		
<b>AIR-TO-GROUND (AG)</b>		
AG 281		
<b>CARRIER QUALIFICATION</b>		
SCQ 290		
CQ 291		
CQ 292		
CQ 293		
<b>GENERAL SUPPORT ACADEMICS</b>		
MAWTS-1 6 FXNS OF MARINE AVIAT		
MAWTS-1 FW THREAT TO MAGTF		
MAWTS-1 RW THREAT TO MAGTF		
MAWTS-1 SURF TO AIR THRT TO		
MAWTS-1 MCPP		
MAWTS-1 ACE BATTLE STAFF PLAN		
MAWTS-1 AVN SPPT TO THE MAGTF		
<b>COMBAT QUALIFIED</b>		
<b>CARRIER QUALIFICATION</b>		
CQ 300		
CQ 301		
<b>NIGHT VISSION GOGGLES (LLL)</b>		
NITE LAB NIGHT OPERATIONS		
NITE LAB ROUTE CONSIDERATIONS		
SNVG 310		
NVG 311		
NVG 312		
NVG 313		

EVENT	DATE	INSTRUCTOR
NVG 314		
<b>AIR-TO-GROUND (AG)</b>		
AG 321		
<b>ELECTRONIC WARFARE</b>		
C3 BASIC RADAR PRINCIPLES		
MAWTS-1 ELECTRONIC WARFARE		
SEW 330		
EW 331		
<b>DEFENSIVE MEASURES (DM)</b>		
CH-46 DM (PART 1 & 2)		
ASD RW EVASIVE MANEUVERS		
ASD RF SAM THREAT		
ASD IR SAM THREAT		
ASD AAA THREAT		
ASD AN/ALE 39 AND AN/AAR 47		
ASD AN/APR 39 (V) 1		
ASD AN/ALQ 157		
SDM 340		
DM 341		
<b>MOUNTAINOUS AREA TRAINING (MAT)</b>		
SMAT 350		
MAT 351		
<b>HELICOPTER INSERTION / EXTRACTION TECHNIQUES (HIE)</b>		
ASD FAST ROPE		
ASD RAPPEL OPERATIONS		
SHIE 360		
HIE 361		
HIE 362		
<b>TACTICS (LOW AND MEDIUM THREAT) (TAC)</b>		
STAC 370		
TAC 371		
TAC 372		
TAC 373		
TAC 374		
TAC 375		
ASD TACTICAL BRF & DEBRFING		
ASD OBJECTIVE AREA PLANNING		
ASD ESCORT TACTICS		
MAWTS-1 TRAP		
ASD MOUT		
ASD NEO EXECUTION		
MAWTS-1 GCE RAID		
ASD EXECUTION CHECKLIST		
MAWTS-1 ACEOI		
MAWTS-1 REC THREAT TO THE		
<b>NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC)</b>		
SNBC 380		
<b>EXTERNAL CARGO OPERATIONS</b>		
SEXT 390		
EXT 391		
EXT 392		
<b>GENERAL SUPPORT ACADEMICS</b>		
MAWTS-1 MAGTF FSCMs		
MAWTS-1 MAGTF TGTING AND FSP		
ASD RAPID RESPONSE PLANNING		
C3 MACG ISO MEU(SOC)		
MAWTS-1 ROE AND LAWS OF WAR		
<b>FULL COMBAT QUALIFIED</b>		
<b>TACTICS (HIGH THREAT) (TAC)</b>		
STAC 400		
TAC 401		

NAME: \_\_\_\_\_

SSN: \_\_\_\_\_

## CH-46E TRAINING SYLLABUS

EVENT	DATE	INSTRUCTOR
TAC 402		
MAWTS-1 INTEL SUPT		
MAWTS-1 CONTROL OF A/C AND MSL		
MAWTS-1 JOINT AIR OPERATIONS		
<b>NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC)</b>		
NBC 430		
NBC 431		
<b>DEFENSIVE MEASURES (DM)</b>		
ASD Ps/EM		
SDM 440		
DM 441		
DM 442		
ASD ATTACK HELO THREAT		
ASD FW THREAT		
<b>MOUNTAINOUS AREA TRAINING (MAT)</b>		
MAT 450		
MAT 451		
<b>HELICOPTER INSERTION / EXTRACTION TECHNIQUES (HIE)</b>		
ASD SPIE		
HIE 460		
CH-46 AERIAL DELIVERY		
HIE 461		
ASD HELOCAST		
HIE 462		
CH-46 HOIST/RESCUE OPERATIONS		
HIE 463		
<b>CARRIER QUALIFICATION</b>		
CQ 491		
<b>GENERAL SUPPORT ACADEMICS</b>		
ASD RAPID RESPONSE PLANNING		
ASD HELO ASSLT KEY PLAYERS		
<b><u>INSTRUCTOR TRAINING</u></b>		
<b>TERRAIN FLIGHT INSTRUCTOR (TERFI)</b>		
TERRAIN FLIGHT		
ASD TACTICAL AIRCREW		
ASD IR SAM THREAT		
ASD RF SAM THREAT		
ASD AAA THREAT		
TERF 570		
TERF 571		
CLASS PRESENTATION		
EXAM		
TERF 572		
<b>DEFENSIVE MEASURES INSTRUCTOR (DMI)</b>		
ASD RW EVASIVE MANEUVERS		
CH-46 DM (PT 1 & 2)		
ASD IR SAM THREAT		
ASD AAA THREAT		
ASD FW THREAT		
ASD ATTACK HELO THREAT		
ASD ASE		
CH-46 AN/ALE 39 AND AN/AAR 47		
CH-46 AN/APR 39 (V) 1		
ASD AN/ALQ 157		
ASD Ps/EM		
ASD RF SAM THREAT		
DM 580		
DM 581		
CLASS PRESENTATION		
EXAM		
DM 582		

EVENT	DATE	INSTRUCTOR
<b>NIGHT SYSTEMS INSTRUCTOR (NSI)</b>		
NITE LAB HUMAN VISUAL SYSTEM		
NITE LAB NIGHT ENVIRONMENT		
NITE LAB INTRODUCTION TO NVGs		
NITE LAB MISPERCEPT AND ILLUS		
NITE LAB ADJUSTMENT PROCEDURE		
NITE LAB NIGHT OPERATIONS		
NITE LAB ROUTE CONSIDERATIONS		
NITE LAB NVG FLIR SENSOR		
NITE LAB ORDNANCE		
ASD TACTICS IN THE NIGHT		
CH-46 NVG HUD		
NVD 590		
NVD 591		
NVD 592		
NVD 593		
CLASS PRESENTATION		
EXAM		
NVD 594		
NVD 595		
<b><u>REQUIREMENTS, QUALIFICATIONS &amp; DESIGNATIONS</u></b>		
<b>FLIGHT LEADERSHIP</b>		
FL 602		
FL 603		
FL 604		
FL 605		
FL 606		
FL 607		
FL 608		
MAWTS-1 MARINE CORPS PLANNING		
MAWTS-1 MAGTF FSCMs		
MAWTS-1 INTEL SUPT TO MSN PLAN		
ASD TACTICAL BRFGING AND DEBRF		
FL 609		
FL 610		
FL 611		
MAWTS-1 ACE BATTLE STAFF PLAN		
MAWTS-1 ROE AND LAWS OF WAR		
MAWTS-1 AVN SUPT TO THE MAGTF		
ASD OBJ AREA PLANNING & BRFGING		
FL 612		
MAWTS-1 JOINT AIR OPERATIONS		
MAWTS-1 TRAP		
ASD EXECUTION CHECKLIST		
ASD NEO EXECUTION		
FL 613		
MAWTS-1 CONTROL OF A/C & MSLs		
MAWTS-1 MAGTF TGTING & FSP		
ASD RAPID RESP PLAN		
ASD HELO ASSLT KEY PLAYERS		
<b><u>SPECIAL TRAINING</u></b>		
<b>ARCTIC WEATHER TRAINING (AWT)</b>		
AWT 620		
<b>DESERT OPERATIONS (DES)</b>		
CH-46 DESERT LANDING		
DES 630		
<b>CREW RESOURCE MANAGEMENT (CRM)</b>		
SCRM 640		
<b>WATER LANDINGS (WTR)</b>		
WTR 650		
<b>AIR COMBAT MANEUVERING (ACM)</b>		

NAME: \_\_\_\_\_

SSN: \_\_\_\_\_

# CH-46E TRAINING SYLLABUS

SACM 660		
<b>FUNCTIONAL CHECK FLIGHT</b>		
FCF 670		

NAME: \_\_\_\_\_

SSN: \_\_\_\_\_  
6-36

7 AUGUST 2002