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From: Commandant of the Marine Corps
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Subj: F-35B TRAINING AND READINESS (T&R) MANUAL, PHASES 2000-8000

Ref: (a) NAVMC 3500.14C

Encl: (1) F-35B T&R Manual Phases 2000-8000

1. Purpose. In accordance with reference (a), publish standards and regulations regarding the training of the F-35B Aircrew in the 2000-8000 phases of training.

2. Scope

a. This Manual represents the collaborative efforts of subject matter experts from the Joint Strike Fighter Joint Program Office, Training and Education Command (TECOM), Aviation Standards Branch, Marine Aviation Weapons and Tactics Squadron-1, Deputy Commandant for Aviation, Marine Fighter Attack Training Squadron-501, and operating force representatives.

b. This first-ever T&R Manual for the F-35B for the 2000 through 8000 Phases provides for training progression as follows:

(1) Core (2000), Mission (3000), Core Plus (4000), and Mission Plus Skill (4000) Phases.

(2) Instructor Training (5000) Phase.

(3) Requirements, Qualifications, and Designations (6000) Phase. The 7000 Phase is reserved for future use.

(4) Aviation Career Progression Model (8000) Phase.

DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE;
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3. Information. Recommended changes to this manual should be submitted via the syllabus sponsor and the appropriate chain of command to: Commanding General (CG), TECOM, Marine Air Ground Task Force Training and Education Standards Division (MTESD) (C 465), Aviation Standards Branch using standard naval correspondence or the Automated Message Handling System plain language address: CG TECOM MTESD.

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

5. Certification. Reviewed and approved this date.



T. M. MURRAY
By direction

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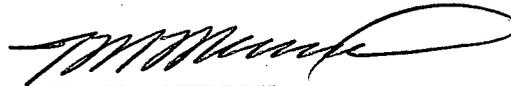
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CHAPTER 1
PHASES 2000 - 8000
F-35B TRAINING AND READINESS UNIT REQUIREMENTS

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CHAPTER 1

PHASES 2000 - 8000

F-35B VMFA TRAINING AND READINESS UNIT REQUIREMENTS

1.0 TRAINING AND READINESS REQUIREMENTS. The Marine Aviation Training and Readiness (T&R) Program provides the Marine Air-Ground Task Force (MAGTF) commander with an Aviation Combat Element (ACE) capable of executing the six functions of Marine Aviation. The T&R Program is the fundamental tool used by commanders to construct, attain, and maintain effective training programs. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned METs while conserving resources. These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

1.1 MISSION. Support the MAGTF Commander by destroying surface targets and enemy aircraft, day or night under all weather conditions during expeditionary, joint or combined operations.

1.2 TABLE OF ORGANIZATION (T/O). Refer to Table of Organization managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for VMFA F-35B units. As of this publication date, projected VMFA F-35B units will be authorized:

VMFA F-35B			
	Squadron	Squadron(-)	Detachment
Aircraft	16	10	6
Pilots	26	17	9

1.3 SIX FUNCTIONS OF MARINE AVIATION

SIX FUNCTIONS OF MARINE AVIATION		
FUNCTION	ABBREVIATION	DESCRIPTION
Offensive Air Support	OAS	OAS involves air operations that are conducted against enemy installations, facilities, and personnel in order to directly assist in the attainment of MAGTF objectives by destroying enemy resources or isolating enemy military forces. Its primary support of the warfighting functions is to provide fires and force protection through CAS and DAS.
Assault Support	ASPT	ASPT contributes to the warfighting functions of maneuver and logistics. Maneuver warfare demands rapid, flexible maneuverability to achieve a decision. Assault support uses aircraft to provide tactical mobility and logistic support to the MAGTF for the movement of high priority personnel and cargo within the immediate area of operations (or the evacuation of personnel and cargo).
Anti-Air Warfare	AAW	AAW is the actions used to destroy or reduce the enemy air and missile threat to an acceptable level. The primary purpose of AAW is to gain and maintain whatever degree of air superiority is required; this permits the conduct of operations without prohibitive interference by opposing air and missile forces. AAW's other purpose is force protection.
Electronic Warfare	EW	EW is any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. EW supports the warfighting functions of fires, command and control, and intelligence through the three major subdivisions: electronic attack, electronic protection, and electronic warfare support.
Control of Aircraft & Missiles	CoA&M	The control of aircraft and missiles supports the warfighting function of Command and Control. The ACE commander maintains centralized command, while control is decentralized and executed through the Marine Air Command and Control System (MACCS). CoA&M integrates the other five functions of Marine Aviation by providing the commander with the ability to exercise Command and Control authority over Marine Aviation assets.
Aerial Reconnaissance	AerRec	AerRec employs visual observation and/or sensors in aerial vehicles to acquire intelligence information. It supports the intelligence warfighting function and is employed tactically, operationally, and strategically. The three types of air reconnaissance are visual, multi-sensor imagery, and electronic.

1.4 ABBREVIATIONS. Shading indicates Core Plus Skills. If Core Plus Skills do not apply, do not include that section in the table.

VMFA	
CORE/MISSION/CORE PLUS SKILL ABBREVIATIONS	
CORE SKILLS (2000 Phase)	
FAM	Familiarization
AAR	Air-to-Air Refueling
BA	Basic Air-to-Surface
BFM	Basic Fighter Maneuvering
ACM	Air Combat Maneuvering
TI	Tactical Intercepts
NT	Non-Sanctuary Tactics
EA	Electronic Attack
LFE	Large Force Exercise
MISSION SKILLS (3000 Phase)	
CAS	Close Air Support
AR	Armed Reconnaissance
SCAR	Strike Coordination and Reconnaissance
OAAW	Offensive Anti-Air Warfare
AAD	Active Air Defense
AI	Air Interdiction
SEAD	Suppression/Destruction of Enemy Air Defense
EA	Electronic Attack
ES	Electronic Support
EXP	Aviation Operations From Expeditionary Land-Based Sites
CORE PLUS (4000 Phase)	
FOB	Shore Base Restricted
FCLP	Field Carrier Landing Practice
CQ	Aviation Operations From Expeditionary Sea-Based Sites
MIR	Multi-Sensor Imagery Reconnaissance
AESC	Aerial Escort
AMT	Attack Enemy Maritime Targets
TAC(A)	Tactical Air Coordination (Airborne)
FAC(A)	Forward Air Controller (Airborne)

1.5 DEFINITIONS

TERM	DEFINITION
Core Model	The Core Model is the basic foundation or standardized format by which all T&Rs are constructed. The Core model provides the capability of quantifying both unit and individual training requirements and measuring readiness. This is accomplished by linking community Mission Statements, Mission Essential Task Lists, Output Standards, Core Skill Proficiency Requirements and Combat Leadership Matrices
Core Skill	Fundamental, environmental, or conditional capabilities required to perform basic functions. These basic functions serve as tactical enablers that allow crews to progress to the more complex Mission Skills. Primarily 2000 Phase events but may be introduced in the 1000 Phase.
Mission Skill	Mission Skills enable a unit to execute a specific MET. They are comprised of advanced event(s) that are focused on MET performance and draw upon the knowledge, aeronautical abilities, and situational awareness developed during Core Skill training. 3000 Phase events.
Core Plus Skill	Training events that can be theater specific or that have a low likelihood of occurrence. They may be Fundamental, environmental, or conditional capabilities required to perform basic functions. 4000 Phase events.
Core Plus Mission	Training events that can be theater specific or that have a low likelihood of occurrence. They are comprised of advanced event(s) that are focused on Core Plus MET performance and draw upon the knowledge, aeronautical abilities, and situational awareness. 4000 Phase events.
Core Skill Proficiency (CSP)	CSP is a measure of training completion for 2000 Phase events. CSP is attained by executing all events listed in the Attain Table for each Core Skill. The individual must be simultaneously proficient in all events within that Core Skill to attain CSP.
Mission Skill Proficiency (MSP)	MSP is a measure of training completion for 3000 Phase events. MSP is attained by executing all events listed in the Attain Table for each Mission Skill. The individual must be simultaneously proficient in all events within that Mission Skill to attain MSP. MSP is directly related to Training Readiness.
Core Plus Skill Proficiency (CPSP)	CPSP is a measure of training completion for 4000 Phase "Skill" events. CPSP is attained by executing all events listed in the Attain Table for each Core Plus Skill. The individual must be simultaneously proficient in all events within that Core Plus Skill to attain CPSP
Core Plus Mission Proficiency (CPMP)	CPMP is a measure of training completion for 4000 Phase "Mission" events. CPMP is attained by executing all events listed in the Attain Table for each Core Plus Mission. The individual must be simultaneously proficient in all events within that Core Plus Mission to attain CPMP
Core Model Training Standard (CMTS)	CMTS is an objective optimum training standard used by squadrons that reflects the number of individuals trained to CSP/MSP, per crew position. The CMTS is for internal squadron planning only and is not utilized for readiness reporting. The numbers are determined by individual communities.
Core Model Minimum Requirement (CMMR)	CMMR represents the minimum crew definition qualifications and designations, the number of crews required per MET, and minimum Combat Leadership requirements for readiness reporting purposes.

1.6 MISSION ESSENTIAL TASK LIST (METL). The METL is a list of specified tasks a unit is expected to execute. Core METs are drawn from the Marine Corps Task List (MCTL), are standardized by type unit, and are used for reporting Core squadron readiness in DRRS-MC. Core Plus METs reflect additional capabilities to support missions or plans which are limited in scope, theater specific, or have a lower probability of execution. Core Plus METs may be included in readiness reporting when contained within an Assigned Mission METL. An Assigned Mission METL consists of only selected METs (drawn from Core and Core Plus METs) necessary for that Assigned Mission. Chapter 7 of the Aviation T&R Program Manual provides additional information on Aviation Training Readiness policy.

VMFA F-35B		
MISSION ESSENTIAL TASK LIST (METL)		
CORE		
MET	ABBREVIATION	DESCRIPTION
MCT 1.3.3.3.2	EXP	Conduct Aviation Operations From Expeditionary Shore-Based Sites
MCT 3.2.3.1.1	CAS	Conduct Close Air Support
MCT 3.2.3.1.2.1	AI	Conduct Air Interdiction
MCT 3.2.3.1.2.2	AR	Conduct Armed Reconnaissance
MCT 3.2.3.1.2.3	SCAR	Conduct Strike Coordination and Reconnaissance
MCT 3.2.3.2	OAAW	Conduct Offensive Anti-air Warfare
MCT 3.2.3.2.1	SEAD	Conduct Suppression of Enemy Air Defenses
MCT 3.2.3.3	EA	Conduct Aviation Electronic Attack
MCT 5.4.1.2.3	ES	Conduct Electronic Warfare Support
MCT 6.1.1.8	AAD	Conduct Active Air Defense
CORE PLUS		
MET	ABBREVIATION	DESCRIPTION
MCT 1.3.3.3.X	FOB	Conduct Aviation Operations From Expeditionary Restricted Sites
MCT 1.3.3.3.1	CQ	Conduct Aviation Operations From Expeditionary Sea-Based Sites
MCT 2.2.5.2.2	MIR	Conduct Multi-sensor Imagery Reconnaissance
MCT 6.1.1.11	AESC	Conduct Aerial Escort
MCT 3.2.7.5	AMT	Attack Enemy Maritime Targets
MCT 5.3.2.7.3	TAC (A)	Conduct Tactical Air Coordination (Airborne)
MCT 3.2.5.4	FAC (A)	Conduct Forward Air Control (Airborne)

1.7 MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION

VMFA F-35B							
MISSION ESSENTIAL TASK (MET) TO SIX FUNCTIONS OF MARINE AVIATION							
CORE							
MET	ABBREVIATION	SIX FUNCTIONS OF MARINE AVIATION					
		OAS	ASPT	AAW	EW	CoA&M	AerRec
MCT 1.3.3.3.2	EXP	X	X	X	X	X	X
MCT 3.2.3.1.1	CAS	X	X		X		X
MCT 3.2.3.1.2.1	AI	X		X	X		X
MCT 3.2.3.1.2.2	AR	X			X		X
MCT 3.2.3.1.2.3	SCAR	X			X	X	X
MCT 3.2.3.2	OAAW			X	X	X	
MCT 3.2.3.2.1	SEAD	X	X		X		X
MCT 3.2.3.3	EA	X	X	X	X		X
MCT 5.4.1.2.3	ES	X	X	X	X		X
MCT 6.1.1.8	AAD		X	X		X	
CORE PLUS							
MCT 1.3.3.3.X	FOB	X	X	X	X		
MCT 1.3.3.3.1	CQ	X	X	X	X		
MCT 2.2.5.2.2	MIR	X	X		X		X
MCT 6.1.1.11	AESC		X	X	X	X	
MCT 3.2.7.5	AMT	X					X
MCT 5.3.2.7.3	TAC (A)		X			X	
MCT 3.2.5.4	FAC (A)	X	X		X	X	X

1.8 MET TO CORE/MISSION/CORE PLUS SKILL MATRIX. Depicts the relationship between a MET and each Core/Mission/Core Plus/Mission Plus skill associated with the MET for readiness reporting and resource allocation purposes. There shall be a one-to-one relationship between the MET and a corresponding Mission Skill. For example: the MET for EXP shows a one-to-one relationship with the EXP Mission Skill; the CAS MET shows a one-to-one relationship with the CAS Mission Skill, and so on. Shading indicates Core Plus.

VMFA F-35B MET to CORE/MISSION/CORE PLUS MATRIX																											
MET	CORE SKILLS 2000 (Phase)									MISSION SKILLS (3000 Phase)										CORE PLUS (4000 Phase)							
	FAM	AAR	EA	BF	AM	TI	NT	EA	LFE	EXP	CAS	AI	AR	SCAR	OAAW	SEAD	EA	ES	AAD	FOB	CQ	MIR	AESC	AMT	TAC (A)	FAC (A)	
MCT 1.3.3.3.2 (EXP)	X	X							X																		
MCT 3.2.3.1.1 (CAS)	X	X	X				X	X		X																	
MCT 3.2.3.1.2.1 (AI)	X	X	X	X	X	X	X	X				X															
MCT 3.2.3.1.2.2 (AR)	X	X	X					X	X				X														
MCT 3.2.3.1.2.3 (SCAR)		X	X					X	X					X													
MCT 3.2.3.2 (OAAW)		X		X	X	X	X	X	X						X												
MCT 3.2.3.2.1 (SEAD)		X	X				X	X	X							X											
MCT 3.2.3.3 (EA)		X					X	X	X								X										
MCT 5.4.1.2.3 (ES)		X					X	X	X									X									
MCT 6.1.1.8 (AAD)	X	X	X	X	X	X	X	X	X										X								
CORE PLUS																											
MCT 1.3.3.3.X (FOB)	X																			X							
MCT 1.3.3.3.1 (CQ)	X	X																			X						
MCT 2.2.5.2.2 (MIR)	X	X	X									X	X									X					
MCT 6.1.1.11 (AESC)	X	X		X	X	X		X	X						X	X			X				X				
MCT 3.2.7.5 (AMT)	X	X	X				X	X	X			X	X		X									X			
MCT 5.3.2.7.3 TAC (A)	X	X						X																	X		
MCT 3.2.5.4 (FAC (A))	X	X	X				X	X	X	X		X	X		X												X

1.9 MISSION ESSENTIAL TASK (MET) OUTPUT STANDARDS. The following MET output standards are the required level of performance a VMFA squadron must be capable of sustaining during contingency/combat operations by MET to be considered MET-ready. Output standards will be demonstrated through the incorporation of unit training events. A core capable VMFA squadron is able to sustain the number of sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on a projected 1.3 hour average sortie duration. It assumes >70% FMC aircraft and >90% T/O aircrew on hand. If unit FMC aircraft is <70% or T/O aircrew <90%, core capability will be degraded by a like percentage.

VMFA F-35B MET OUTPUT STANDARDS			
16/10/6 Aircraft {SQUADRON/SQUADRON(-)/DETACHMENT}			
CORE			
MET	ABBREVIATION	MAXIMUM DAILY SORTIES	MAXIMUM SORTIES PER MET
MCT 1.3.3.3.2	EXP	26/18/8	26/18/8
MCT 3.2.3.1.1	CAS		26/18/8
MCT 3.2.3.1.2.1	AI		26/18/8
MCT 3.2.3.1.2.2	AR		26/18/8
MCT 3.2.3.1.2.3	SCAR		26/18/8
MCT 3.2.3.2	OAAW		26/18/8
MCT 3.2.3.2.1	SEAD		26/18/8
MCT 3.2.3.3	EA		26/18/8
MCT 5.4.1.2.3	ES		26/18/8
MCT 6.1.1.8	AAD		26/18/8
CORE PLUS			
MET	ABBREVIATION	MAXIMUM DAILY SORTIES	MAXIMUM SORTIES PER MET
MCT 1.3.3.3.X	FOB	26/18/8	26/18/8
MCT 1.3.3.3.1	CQ		26/18/8
MCT 2.2.5.2.2	MIR		26/18/8
MCT 6.1.1.11	AESC		26/18/8
MCT 3.2.7.5	AMT		26/18/8
MCT 5.3.2.7.3	TAC(A)		6/4/2
MCT 3.2.5.4	FAC(A)		6/4/2

Note: A VMFA squadron/detachment is able to execute maximum daily sorties of 26/18/8 total overall sorties on a sustained daily basis during contingency/combat operations. Based on projected flight hour data; average sortie duration is 1.3 hours for the F-35B.

1.10 CORE MODEL MINIMUM REQUIREMENTS (CMMR) FOR READINESS REPORTING (DRRS-MC). The paragraphs and tables below delineate the minimum aircrew qualifications and designations required to execute the MET output standards of para 1.9. Chapter 7 of the Aviation T&R Program Manual provides additional guidance and a detailed description of readiness reporting using the Defense Readiness Reporting System - Marine Corps (DRRS-MC).

1.10.1 The CMMR Readiness Reporting Matrix depicts the minimum crew composition (defined as a combination of qualifications and designations) reflecting the number of crews required per MET and minimum Combat Leadership requirements for readiness reporting purposes. The number of crews formed using the below minimum standards per crew capture the readiness capability of a squadron to perform the MET sortie under all light levels.

VMFA F-35B CMMR READINESS REPORTING MATRIX					
MINIMUM CREW QUALIFICATIONS / DESIGNATIONS REQUIRED FOR MET CAPABILITY					
CORE					
MET	ABBREVIATION	PILOT	CREWS/PILOTS		
			SQUADRON 16 A/C	SQUADRON (-) 10 A/C	DETACHMENT 6 A/C
MCT 1.3.3.3.2	EXP	MSP	19	12	7
MCT 3.2.3.1.1	CAS	MSP	19	12	7
MCT 3.2.3.1.2.1	AI	MSP	19	12	7
MCT 3.2.3.1.2.2	AR	MSP	19	12	7
MCT 3.2.3.1.2.3	SCAR	MSP	16	10	6
MCT 3.2.3.2	OAAW	MSP	16	10	6
MCT 3.2.3.2.1	SEAD	MSP	19	12	7
MCT 3.2.3.3	EA	MSP	19	12	7
MCT 5.4.1.2.3	ES	MSP	19	12	7
MCT 6.1.1.8	AAD	MSP	16	10	6
CORE PLUS					
MET	ABBREVIATION	PILOT	CREWS/PILOTS		
			SQUADRON 16 A/C	SQUADRON (-) 10 A/C	DETACHMENT 6 A/C
MCT 1.3.3.3.1	FOB	MSP	23	16	7
MCT 1.3.3.3.1	CQ	MSP	23	16	7
MCT 2.2.5.2.2	MIR	MSP	19	12	7
MCT 6.1.1.11	AESC	MSP	14	8	6
MCT 3.2.7.5	AMT	MSP	19	12	7
MCT 5.3.2.7.3	TAC (A)	MSP	3	2	1
MCT 3.2.5.4	FAC (A)	MSP	3	2	1
COMBAT/FLIGHT LEADERSHIP CMMR					
DESIGNATION	PILOTS				
	SQUADRON 16 A/C	SQUADRON (-) 10 A/C	DETACHMENT 6 A/C		
SECTION LEADER (SL)	15	9	6		
DIVISION LEADER (DL)	8	5	3		
MISSION COMMANDER (MC)	4	3	1		

1.11 CORE MODEL TRAINING STANDARD (CMTS). The CMTS is the optimum training standard reflecting the number of aircrews trained to CSP/MSP, per crew position to execute each stage of flight as detailed below. The CMTS Matrix depicts the training goal and optimum depth of training desired for each squadron as they develop their squadron training plan. It is not utilized for readiness reporting (DRRS-MC) purposes. At a minimum, the CMTS shall enable a squadron to form Core Model Minimum Requirement (CMMR) crews for Mission Skills (and Core Plus Mission Skills when required). For single-seat aircraft, the number of aircrews trained to MSP standards in the CMTS Matrix and CMMR may be the same.

VMFA F-35B CMTS			
CORE SKILLS (2000 Phase)			
SKILL	SQUADRON 16 A/C	SQUADRON(-) 10 A/C	DETACHMENT 6 A/C
FAM (2100)	19	12	7
AAR (2200)	19	12	7
BA (2300)	19	12	7
BF (2400)	19	12	7
AM (2500)	19	12	7
TI (2600)	19	12	7
NT (2700)	19	12	7
EA (2800)	19	12	7
LFE (2900)	12	8	4
MISSION SKILLS (3000 Phase)			
SKILL	SQUADRON 16 A/C	SQUADRON(-) 10 A/C	DETACHMENT 6 A/C
CAS (3100)	19	12	7
AR (3200)	19	12	7
SCAR (3300)	16	10	6
OAAW (3400)	16	10	6
AAD (3500)	16	10	6
AI (3600)	19	12	7
SEAD/DEAD (3700)	19	12	7
EA (2800)	19	12	7
ES (2800)	19	12	7
EXP (3800)	19	12	7
CORE PLUS (4000 Phase)			
SKILLS	SQUADRON 16 A/C	SQUADRON(-) 10 A/C	DETACHMENT 6 A/C
FOB (4100)	(0)/19	(0)/12	(0)/7
FCLP/CQ (4200)	(0)/19	(0)/12	(0)/7
MIR (4300)	(0)/19	(0)/12	(0)/7
AESC (4400)	(0)/16	(0)/10	(0)/6
AMT (4500)	(0)/19	(0)/12	(0)/7
FAC (A) (4600)	(1)/(3)	(1)/2	(0)/1
TAC (A) (4700)	(0)/3	(0)/2	(0)/1

Note¹: In the Core Plus METS the first number represents the number of individuals the squadron is expected to train at all times in order to retain a cadre of capability within the squadron. The second number represents the number of MET capable individuals the squadron should train if that MET becomes required within an Assigned Mission/Directed Mission Set.

1.12 INSTRUCTOR DESIGNATIONS (5000 Phase). A squadron should possess the following number of pilots with the listed designations IAW MCO 3500.12 (WTTP). The squadron CO/XO instructor designations shall not count toward the following numbers.

VMFA F-35B INSTRUCTOR DESIGNATIONS CMTS MATRIX (5000 Phase)			
INSTRUCTOR DESIGNATIONS	SQUADRON 16 A/C	SQUADRON(-) 10 A/C	DETACHMENT 6 A/C
IP	7	5	2
FAC (A) I	1	1	0
FLSE	2	2	0

1.13 REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS
(R, C, Q & D) (6000 Phase)

VMFA F-35B (R,C,Q,D) CMTS MATRIX (6000 Phase)			
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, DESIGNATIONS (R,C,Q,D) (6000 Phase) CMTS			
R,C,Q,D	SQUADRON 16 A/C	SQUADRON(-) 10 A/C	DETACHMENT 6 A/C
LSO	7	4	3
PMCF	6	4	2
FAC (A)	2	2	0
MDTC / TOPGUN	3	2	1
WTI	3	2	1

1.14 UNIT EXTERNAL SYLLABUS RESOURCE REQUIREMENTS

(As previously stated in Section 1) - This section addresses any external critical training resources required to achieve T&R requirements (e.g., ranges, adversary support, tanker support, etc.). Objectively defining and identifying aviation training resource requirements will assist operational and HQ agencies in defining required aviation training resources. In addition to the range requirements listed below, reference Chapter 2 of this T&R manual for additional external syllabus resource requirements.

Category	Abbreviation	Name	Description	Notes
CAT I	MOA	Special Use Airspace or MOA	Per Flight Information Publications	
CAT I	RSTD	Restricted/Warning Area	Per Flight Information Publications	
CAT I	MTR	Military Training Route	Per Flight Information Publications	
CAT I	LAT	LAT Course	Approved LAT course. Normally preferred over an MTR for dedicated LAT sorties.	
CAT I	AA	Air-to-Air Range	Any airspace that can support BFM or ACM. May include Restricted Airspace, MOAs, or Warning Areas, for example.	For Intercepts/BVR, a minimum airspace of 40 nm is usually required.
CAT I	AA GUNS	Air-to-Air Gunnery Range	Any airspace that can support Air-to-Air Gunnery on a towed Banner. Implies Restricted Airspace or Warning Areas, for example.	
CAT I	MACH 1+	Supersonic	Any airspace that can support Supersonic Flight.	
CAT I	AAR	Air-to-Air Refueling	Any airspace that can support AAR.	

Category	Abbreviation	Name	Description	Notes
CAT II	TACTS	Tactical Air Combat Training System	TACTS range-capable. A sophisticated airspace tracking and display instrumentation system used primarily in ACM and threat WEZ recognition. All maneuvers are displayed real-time for a squadron Range Training Officer (RTO). All data is recorded to allow the aircrew to conduct post-mission analysis or "debriefs."	TACTS usually includes ACM, NDWS, EW, NDWS, ARM, capabilities. Implies RSTD Airspace.
CAT II	EW	Electronic Warfare	Threat Emitters providing a dynamic red/or gray force threat environment to enhance threat recognition, self-protection, and defense-suppression techniques.	
CAT II	Hi Fi EW	High Fidelity EW	Hi Fidelity (live) Emitters. Live actual SAM systems with operators. Can provide feedback via tape debrief.	Often a desired substitute for EW, may be cost prohibitive.
CAT II	ACM	Air Combat Maneuvering	Supports training in A-A maneuvers and weapons employment under realistic conditions for manned high performance FW & RW aircraft. This includes weapon simulation (AIM-9, AIM-7, AIM-120) from launch to impact with kill & miss indications as well as Pk and reason for miss provided.	
CAT II	ARM	Anti-Radiation Missile	Supports training to ARM delivery with simulated missile fly-out and kill indications.	
CAT II	CEDS	Countermeasures Employments Detection System	Supports training to countermeasures by linking to the ALE via TACTS systems for EW training. Normally included in a TACTS EW range.	
CAT II	ATIS	Avenger TACTS Interface	Allows the LAAD Avenger team to plug into TACTS and evaluate control/scoring.	
CAT II	LSTSS	Large Scale Target Sensor System	A remote control scoring system capable of tracking LASER designator spots.	
CAT II	IWTS	Imaging Weapons Training System	Virtual simulation to provide pilot uplink imagery of weapon seeker image through TOF to actual target.	Supports SLAM-ER.
CAT II	URBN WPNS	Urban Weapons Impact Range	Urban CAS range capable of JCAS, LT INERT, and LSR.	

Category	Abbreviation	Name	Description	Notes
CAT II	URBN TRG	Urban Training	Urban area with overlying Restricted or MOA training airspace. Does not imply authorized weapons release or LASER use.	Example is a town, such as Yuma, under the Dome MOA.
CAT II	RKD RNG	Raked Range	Concentric circle range, with WISS. LSR and RLSR a desired capability but must be specified. Night lighting capability implied.	
CAT II	LSR	LASER Safe Range	Supports airborne LASER firing.	
CAT II	RLSR	Remote LASER Capable	A remote-operated ground LASER may designate a target.	Should be standard on a RKD RNG
CAT II	WISS	Weapons Impact Scoring Set	Scores bombing to designated targets. Scores can be relayed via voice or fax.	Should be standard on a RKD RNG
CAT II	NDBS	No Drop Bomb Scoring	Scores simulated bombing to designated targets. Scores can be relayed via tape debrief.	Should be standard on TACTS
CAT II	STRAFE	Strafe Pit/Target	A scored Strafing Pit or Target.	Often located near a RKD RNG
CAT II	TGT	Target	Any point- target that is authorized for releasing INERT weapons on.	May include an unscored Raked Range
CAT II	IR TGT	IR-Significant Target	IR-Significant target.	
CAT II	RDR TGT	RADAR-Significant Target	RADAR-Significant target.	
CAT II	LINK	LINK 16	LINK 16 available.	
CAT III	HE	HE Impact Area	Supports live HE ordnance. Implies EXP.	
CAT III	JCAS	JCAS TTPs	Supports all three types of CAS in the range. Allows JTAC personnel on range. Implies LSR and either INERT or HE.	
CAT III	LT INERT	Light Inert	Light Inert impact area.	MK-76/LGTR/BDU-48/Gun/Rockets
CAT III	HVY INERT	Heavy Inert	Heavy Inert impact area.	500 lb and above
CAT III	JDAM	JDAM Impact Area/Target	Supports JDAM release.	
CAT III	JSOW	JSOW Impact Area/Target	Supports JSOW release.	

Category	Abbreviation	Name	Description	Notes
CAT III	LGB	LGB Impact Area/Target	Supports LGB (HE or HVY INERT) release and LASER firing.	
CAT III	AA MISSILE	AA Missile Firing Range	Supports AA missile firing.	AIM-9/AIM-7/AIM-120
CAT III	AS MISSILE	A/S Missile Firing Range	Supports AS missile firing.	LMAV/LGB/Hellfire/TOW
CAT III	ARM MISSILE	ARM Missile Firing Range	Supports ARM missile firing. Requires an EW emitter.	AGM-88
CAT III	EXP	Expendables Authorized	Supports use of Chaff & Flares.	
CAT III	ICM	Improved Conventional Munitions	Supports ICM or Cluster munitions.	
CAT IV	IMC	Instrumented Multi-Spectral Cues	Full size replicas of actual AAA and SAM systems, IR-significant and normally linked to LSTSS and NDBS/WISS.	
CAT IV	MOCK	Mock-Up Targets	Full size replicas of Mechanized or Threat vehicles. IR-significant desired. Weapons release not implied.	
CAT IV	GWVS	Ground Warfare Visual Simulator	Provides enhanced battlefield realism via simulation of muzzle flashes for AAA and launch of SAMs.	
CAT IV	SST	Smokey SAM Team	Smoke Rockets to simulate MANPADs or RF SAMs.	
CAT IV	COMPLEX	Complex Target Array	Dispersed target array requiring sorting of targets and may include infrastructures such as runways, facilities, POL sites, etc. Implies INERT and LSR. WISS desired.	
CAT IV	TGT-FORM	Tactical Targets in Formation	Full size actual or replicas of Mechanized or Threat vehicles. IR-significant desired. Implies INERT and LSR. WISS desired.	
CAT IV	TGT-DISP	Tactical Targets Dispersed	Full size actual or replicas of Mechanized or Threat vehicles. IR-significant desired. Implies INERT and LSR. WISS desired.	

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Category	Abbreviation	Name	Description	Notes
CAT IV	TGT-MOVE	Tactical Targets Moving	Full size actual or replicas of Mechanized or Threat vehicles. IR-significant desired. Implies LT INERT and LSR. WISS & LSTSS desired.	
CAT IV	RECCE ARRAY	Actual Tactical Targets in an Array for PID	Full size actual Mechanized or Threat vehicles. Organized in an array in order to allow PID. Weapons release not implied.	
CAT IV	STRUCTR	Structures	May include a building, bunker, or revetment. IR-significant desired. Inert weapons release authorized. LSR capable. WISS desired.	

APPENDIX A

VMFA F-35B Mission Essential Task List (METL) and MET Worksheets
Squadron {16 A/C} / Squadron(-) {10 A/C} / Detachment {6 A/C}

Core

MCT 1.3.3.3.2 Conduct Aviation Operations From Expeditionary Shore-Based Sites **(EXP)**
MCT 3.2.3.1.1 Conduct Close Air Support **(CAS)**
MCT 3.2.3.1.2.1 Conduct Air Interdiction **(AI)**
MCT 3.2.3.1.2.2 Conduct Armed Reconnaissance **(AR)**
MCT 3.2.3.1.2.3 Conduct Strike Coordination and Reconnaissance **(SCAR)**
MCT 3.2.3.2 Conduct Offensive Anti-air Warfare **(OAAW)**
MCT 3.2.3.2.1 Conduct Suppression of Enemy Air Defenses **(SEAD)**
MCT 3.2.3.3 Conduct Aviation Electronic Attack **(EA)**
MCT 5.4.1.2.3 Conduct Electronic Warfare Support **(ES)**
MCT 6.1.1.8 Conduct Active Air Defense **(AAD)**

Core Plus

MCT 1.3.3.3.2.1 Conduct Aviation Operations From Expeditionary Shore-Based Sites **(FOB)**
MCT 1.3.3.3.1 Conduct Aviation Operations From Expeditionary Sea-Based Sites **(SEA)**
MCT 2.2.5.2.2 Conduct Multisensor Imagery Reconnaissance **(MIR)**
MCT 6.1.1.11 Conduct Aerial Escort **(AESC)**
MCT 3.2.7.5 Attack Enemy Maritime Targets **(AMT)**
MCT 5.3.2.7.3 Conduct Tactical Air Coordination (Airborne) **[TAC (A)]**
MCT 3.2.5.4 Conduct Forward Air Control (Airborne) **[FAC (A)]**

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MCT 1.3.3.3.2 Conduct Aviation Operations From Expeditionary Shore-Based Sites (EXP)

Conditions:

C 1.3.2.1 Light

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

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots EXP Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 3.2.3.1.1 Conduct Close Air Support (CAS)

Conditions:

C 2.7.2 Air Superiority

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

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots CAS Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 3.2.3.1.2.1 Conduct Air Interdiction (AI)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots AI Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 3.2.3.1.2.2 Conduct Armed Reconnaissance (AR)

Conditions:

C.1.3.1.3.11 Ceiling

Height of lowest cloud cover above sea level.

Descriptors: Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility

Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.

Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots AR Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

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MCT 3.2.3.1.2.3 Conduct Strike Coordination and Reconnaissance (SCAR)

Conditions:

C.1.3.1.3.11 Ceiling

Height of lowest cloud cover above sea level.

Descriptors: Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility

Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.

Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 2.7.2 Air Superiority

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

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 16/10/6 Pilots SCAR Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

MCT 3.2.3.2 Conduct Offensive Anti-Air Warfare (OAAW)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 16/10/6 Pilots OAAW Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 3.2.3.2.1 Conduct Suppression of Enemy Air Defense (SEAD)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots SEAD Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 3.2.3.3 Conduct Aviation Electronic Attack (EA)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots EA Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 5.4.1.2.3 Conduct Electronic Warfare Support (ES)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots ES Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 6.1.1.8 Conduct Active Air Defense (AAD)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

[Squadron/Squadron (-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 16/10/6 Pilots AAD Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

CORE PLUS

MCT 1.3.3.3.X Conduct Aviation Operations From Expeditionary Restricted Sites (FOB)

Conditions:

C 1.3.2.1 Light

Light available to illuminate objects from natural or manmade sources.

Descriptors: Bright (sunny day); Day (overcast day); low (dusk, dawn, moonlit, streetlight lit); Negligible (overcast night)

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 23/16/7 Pilots FOB Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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

C 1.3.2.1 Light

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

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 23/16/7 Pilots SEA Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 2.2.5.2.2 Conduct Multi-sensor Imagery Reconnaissance [MIR](#)

Conditions:

C.1.3.1.3.11 Ceiling

Height of lowest cloud cover above sea level.

Descriptors: Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility

Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.

Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 2.7.2 Air Superiority

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

Standards:

[Squadron/Squadron(-)/Detachment]

Personnel:

- 25/16/9 Pilots T/O
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment:

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4) aircraft
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training:

- 19/12/7 Pilots MIR Mission Skill proficient IAW T&R requirements

Output Standards*:

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 6.1.1.11 Conduct Aerial Escort (AESC)

Conditions:

C.1.3.1.3.11 Ceiling

Height of lowest cloud cover above sea level.

Descriptors: Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility

Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.

Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

Squadron/Squadron (-)/Detachment

Personnel

- 25/16/9 Pilots
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4 aircraft)
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- 14/8/6 AESC Mission Sill Proficient Pilots IAW T&R requirements

Output Standards*

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 3.2.7.5 Attack Enemy Maritime Targets (AMT)

Conditions:

C 2.7.2 Air Superiority

The extent to which operations in the air, over sea and/or, over land can be conducted with acceptable losses due to hostile air forces and air defense systems action. Descriptors: Full (Air Supremacy); General; Local; No.

Standards:

Squadron/Squadron (-)/Detachment

Personnel

- 25/16/9 Pilots
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4 aircraft)
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- 19/12/7 AMT Mission Skill Proficient Pilots IAW T&R requirements

Output Standards*

- 26/18/8 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

MCT 5.3.2.7.3 Conduct Tactical Air Coordination (Airborne) [TAC(A)]
TAC (A)

Conditions:

C 2.7.2 Air Superiority

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

Standards:

Squadron/Squadron (-)/Detachment

Personnel

- 25/16/9 Pilots
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4 aircraft)
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- 3/2/1 TAC(A) Mission Skill Proficient Pilots IAW T&R requirements

Output Standards*

- 6/4/2 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

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MCT 3.2.5.4 Conduct Forward Air Control (Airborne) [FAC(A)] **FAC(A)**

Conditions:

C.1.3.1.3.11 Ceiling

Height of lowest cloud cover above sea level.

Descriptors: Medium (3,000 to 10,000 feet); High (>10,000 feet)

C 1.3.2 Visibility

Maximum distance to see an object given the moisture and particulate matter (dust, salt, ash) suspended in the atmosphere.

Descriptors: Moderate (1 to 3 NM); Good (3 to 10 NM); High (10 to 20 NM); Unlimited (>20 NM)

C 2.7.2 Air Superiority

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

Standards:

Squadron/Squadron (-)/Detachment

Personnel

- 25/16/9 Pilots
- 90% of personnel MOS qualified and deployable
 - And Level 2 (L2) IAW ALERTS.
- 100% critical MOS fill

Equipment

- 70% Full Mission Capable (FMC) aircraft of PAA (11/7/4 aircraft)
OR
Upon establishment, 100 percent RFT entitlement IAW T/M/S standard.
- Operational support equipment fully supports MCT

Training

- 3/2/1 FAC(A) Mission Sill Proficient Pilots IAW T&R requirements

Output Standards*

- 6/4/2 sorties daily sustained during contingency/combat operations

*sorties per day based upon 1.3 sortie duration

CHAPTER 2
PHASES 2000 - 8000
INDIVIDUAL TRAINING
F-35B PILOT

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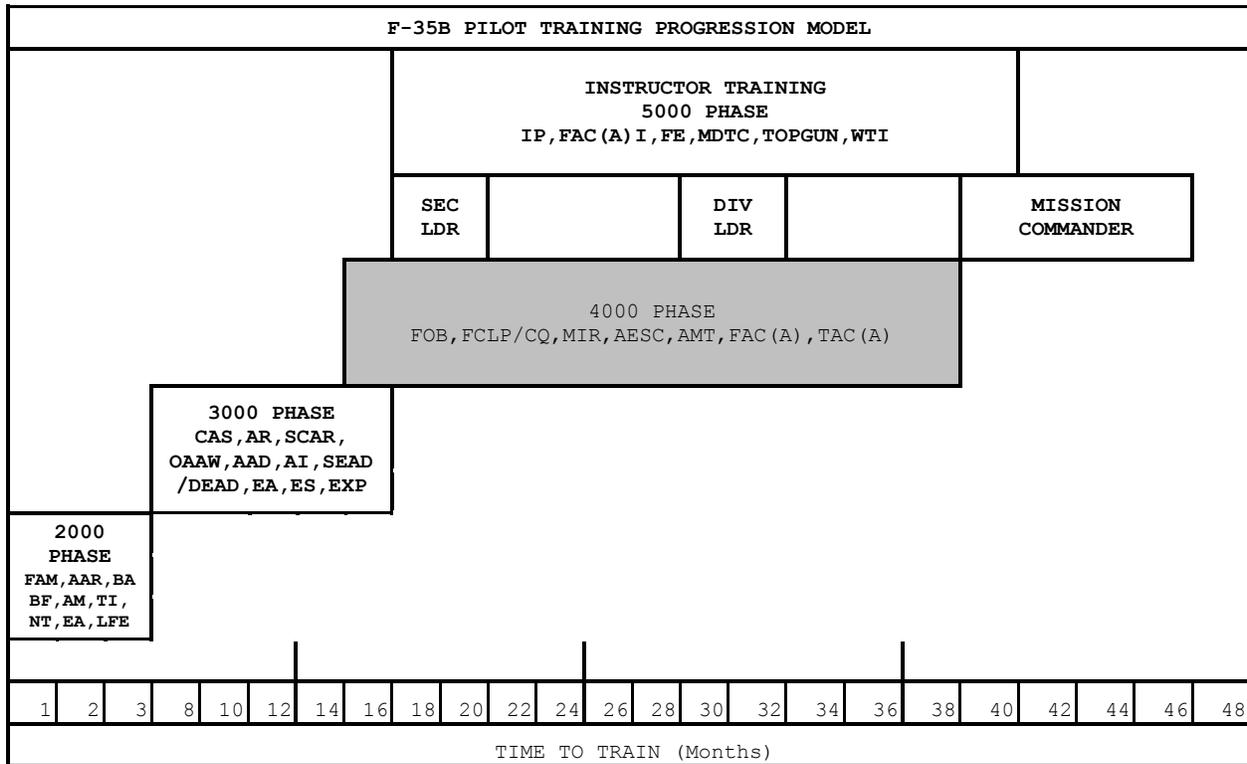
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CHAPTER 2
PHASES 2000 - 8000
INDIVIDUAL TRAINING
F-35 PILOT

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

2.1 TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the minimum to maximum time per phase for each pilot. Units should use the model as a guide to generate individual training plans.

2.1.1 F-35B Pilot Career Progression Model



2.2 INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENT. A CSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual CSP. In order to be considered proficient in a Core Skill, an individual must attain and maintain proficiency in Core Skill events as delineated in the below paragraphs.

2.2.1 Events Required to Attain and Maintain Individual CSP. To initially attain CSP in a Core Skill, an individual must simultaneously have a proficient status in all 2000 phase T&R events listed for that Core Skill. To maintain CSP in a Core Skill, an individual must maintain proficiency in all 2000 phase T&R events listed for that Core Skill:

VMFA F-35 B ATTAIN AND MAINTAIN MATRIX					
CORE SKILLS (2000 PHASE)					
ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY	
BASIC POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
FAM	S2101R	FAM	S2101R	FAM	S2101R
	2102R		2102R		
	2103R		2103R		2103R
AAR	S2201R	AAR	S2201R	AAR	
	2202R		2202R		
	2203R		2203R		2203R
AS	S2301	AS	S2301	AS	
	S2302		S2302		
	S2303		S2303		
	2304R		2304R		2304R
	2305R		2305R		2305R
	2306R		2306R		2306R
BFM	2307R		2307R		2301R
	S2401R	BFM		BFM	
	2402R		2402R		2402R
	S2403R				
	2404R		2404R		2404R
	2405R		2405R		2405R
2406R	2406R		2406R		
ACM	S2501R	ACM	S2501R	ACM	
	2502R		2502R		
	2503R		2503R		2503R
TI	S2601R	TI	S2601R	TI	
	2602R		2602R		2602R
	S2603R		S2603R		
	2604R		2604R		2604R
	S2605R		S2605R		S2605R
NT	S2701R	NT	S2701R	NT	S2701R
	2702R		2702R		2702R
	S2703R		S2703R		
EA	S2801R	EA		EA	S2801R
LFE	2901R	LFE		LFE	2901R

2.3 INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS. A MSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual MSP. In order to be considered proficient in a Mission Skill, an individual must attain and maintain proficiency in Mission Skill events as delineated in the paragraphs below.

2.3.1 Events Required to Attain and Maintain Individual MSP. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill.

VMFA F-35 B ATTAIN AND MAINTAIN MATRIX					
MISSION SKILLS (3000 PHASE)					
ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY	
BASIC POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
CAS	S3101R	CAS	S3101R	CAS	
	3102R		3102R		
	S3103R		S3103R		S3103R
	3104R		3104R		3104R
	S3105R		S3105R		
	3106R		3106R		3106R
AR	S3201R	AR	S3201R	AR	
	3202R		3202R		
	3203R		3203R		3203R
SCAR	S3301R	SCAR	S3301R	SCAR	
	3302R		3302R		3302R
	S3303R		S3303R		S3303R
OAAW	S3401R	OAAW	S3401R	OAAW	
	S3402R		S3402R		S3401R
	3403R		3403R		3403R
AAD	S3501	AAD		AAD	
	3502R		3502R		
	S3503R		S3503R		
	3504R		3504R		3504R
AI	S3601R	AI	S3601R	AI	
	3602R		3602R		
	S3603R				
	3604R				
	3605R		3605R		3605R
SEAD	S3701R	SEAD		SEAD	
	3702R		3702R		3702R
EXP	3801R	EXP	3801R	EXP	3801R
ACPM	8300	ACPM		ACPM	
	8310				
	8311				
	8320				
	8321-8326				
	8340				
	8350				
	8351				

2.3.2 Events Required to Attain and Maintain Individual Proficiency in Core Plus Skills. Proficiency in Core Plus Skills is not required to obtain unit CSP. Training to Core Plus Skills is at the discretion of the unit commanding officer. To initially attain proficiency in a Core Plus Skill, an individual must simultaneously have a proficient status in all T&R events listed for that Core Plus Skill. To maintain proficiency in a Core Plus Skill, an individual must maintain proficiency in all T&R events listed in the table below for that Core Plus Skill.

VMFA F-35 B ATTAIN AND MAINTAIN MATRIX					
CORE PLUS (4000 PHASE)					
ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY	
BASIC POI		REFRESHER POI		MAINTAIN POI	
SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #
FOB	S4101R	FOB	S4101R	FOB	
	4102R		4102R		
	4103R		4103R		4103R
FCLP/CQ	S4201R	FCLP/CQ	S4201R	FCLP/CQ	
	4202R		4202R		
	4203R		4203R		4203R
	4204R		4204R		
	4205R		4205R		4205R
MIR	4301R	MIR	4301R	MIR	4301R
AESC	4401R	AESC	4401R	AESC	4401R
	4402R		4402R		4402R
AMT	4501R	AMT	4501R	AMT	4501R
	4502R		4502R		4502R
FAC (A)	S4601R	FAC (A)	S4601R	FAC (A)	
	S4602R		S4602R		S4602R
	4603				
	4604R		4604R		4604R
	4605				
	4606				
	4607R		4607R		4607R
	4608R		4608R		4608R
	S4609R		S4609R		S4609R
	S4610R		S4610R		S4610R
	4611				
	4612R		4612R		4612R
	4613				
	4614				
	4615				
4616					
TAC (A)	4701R	TAC (A)	4701R	TAC (A)	4701R

2.4 QUALIFICATIONS AND DESIGNATIONS

2.4.1 Qualification. Qualification is a status assigned to aircrew based on demonstration of proficiency in a specific skill. Specific criteria to achieve a qualification is delineated in this T&R manual. Upon successful completion of qualification criteria, commanding officers may issue an appropriate qualification letter for inclusion in the NATOPS jacket and APR. Pilots do not lose a qualification as a function of re-fly factor for individual events. Loss of proficiency (delinquent re-fly factor) for all associated qualification events (events with measurable re-fly factor; '*' re-fly factor events excluded) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency. Re-qualification shall be achieved by successfully re-completing all R-coded events associated with the respective qualification listed in the FA-18A-D training tables (unless waived per paragraph 216 of the Aviation T&R Program Manual).

2.4.2 Designation. Designation is a status assigned to an individual based on leadership ability. A designation is a command specific, one-time occurrence and remains in effect until removed for cause. Specific designation requirements are delineated in the following tables. Commanders shall issue a designation letter to the individual upon the occasion of original designation, with appropriate copies for inclusion in the NATOPS jacket and APR.

2.4.3 Qualifications And Designations Tables. The tables below delineate the T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All stage lectures, briefs, squadron training, and prerequisites shall be complete prior to completing final events. Qualification and designation letters signed by the commanding officer shall be placed in the NATOPS and APR jackets.

2.4.3.1 F-35 B/C Qualifications and Designations

QUALIFICATION AND DESIGNATION REQUIREMENTS VMFA F-35 B/C	
QUALIFICATION	REQUIREMENTS
NATOPS	6101, 6801, 6802, 6803
INSTRUMENT	6102, 6804, 6805
DAY FOB	S4101, 4102, 6201
NIGHT FOB	S4101, 4103, 6202
DAY CQ	S4201, 4202, 4204, 6203
NIGHT CQ	S4101, 4203, 4205, 6204
LSO	IAW LSO SCHOOL CURRICULUM, 6205
PMCF	S6107, 6206
FAC (A)	S4601, S4602, 4603, 4604, 4605, 4606, 4607, 4608, S4609, S4610, 4611, 4612, 6207
TAC (A)	4701, 6208
DESIGNATION	REQUIREMENTS
WINGMAN	ENTIRE 2000 & 3000 PHASE SYLLABUS. (2901)
SECTION LEADER	6301, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6310, 6311, 6312, 6313, 6314
DIVISION LEADER	6401, 6402, 6403, 6404, 6405, 6406, 6407
MISSION COMMANDER	6501, 6502
FAC (A) I	S5201, 5202, 5203
FLSE	S5301, S5302, S5303
WTI	IAW MAWTS-1 COURSE CATALOG
MDTC	IAW MAWTS-1 COURSE CATALOG (6602)
TOPGUN	IAW NSAWC N7 COURSE CATALOG (6603)

2.5 F-35B PILOT PROGRAMS OF INSTRUCTION (POI). These tables reflect average time-to-train versus the minimum to maximum time-to-train parameters in the Training Progression Model.

2.5.1 Basic POI

F-35 B/C PILOT Basic POI		
Weeks	Phase of Instruction	Unit
1-33	Core Skill Introduction (1000 Phase)	FRS
34-58	Core Skill (2000 Phase)	Tactical Unit
59-82	Mission Skill (3000 Phase)	Tactical Unit
83-88	Core Plus (4000 Phase)	Tactical Unit

2.5.2 Refresher POI (731 days or greater since last F-35 flight.)

F-35 B/C PILOT Refresher POI		
Weeks	Phase of Instruction	Unit
1-22	Core Skill Introduction (1000 Phase)	FRS
23-46	Core Skill (2000 Phase)	Tactical Unit
47-70	Mission Skill (3000 Phase)	Tactical Unit
71-16	Core Plus (4000 Phase)	Tactical Unit

2.6 GROUND/ACADEMIC TRAINING. Academic instruction falls into three categories in the training progression. The F-35 Course Catalog outlines the first two: recommended self-paced reading and local unit chalk talks, both sponsored by the unit training officer or designated instructor. The table below outlines the third requirement: lectures and briefs, all of which are provided by MAWTS-1 to facilitate Training and Readiness 2000-4000 phase events. All 2000 phase lectures should be accomplished during the 2000 phase; 3000 phase lectures during the 3000 phase and so forth. Note the required Aviation Career Progression Model (ACPM) courses as 8000 phase events, yet they are also required in the prescribed sequence of training listed below and reflected in MSHARP. The academic lecture requirements matrix is below:

F-35B/C ACADEMIC LECTURE REQUIREMENTS MATRIX				
STAGE	EVENT	DESCRIPTION	SOURCE	PROF. INTERVAL
CORE SKILLS (2000 PHASE EVENTS)				
FAM	2001	MISSION PLANNING	MAWTS-1	*
FAM	2002	PERFORMANCE ENHANCEMENT	TOPGUN	*
MISSION SKILLS (3000 PHASE EVENTS)				
CAS	3001	FIRE SUPPORT COORDINATION MEASURES	MAWTS-1	*
CAS	3002	JOINT CLOSE AIR SUPPORT DOCTRINE	MAWTS-1	*
CAS	3003	CLOSE AIR SUPPORT	MAWTS-1	*
CAS	3004	URBAN CAS	MAWTS-1	*
CAS	3005	DCS / VMF	MAWTS-1	*
AR/SCAR	3047	AR / SCAR	MAWTS-1	*
AR/SCAR	3048	JMEMS	MAWTS-1	*
AR/SCAR	3049	GPS WEAPONS: TARGET COORDINATES	MAWTS-1	*
OAAW	3006	FIGHTER-ATTACK MISSIONS	MAWTS-1	*
OAAW	3007	DEFENSIVE COUNTER MEASURES	TOPGUN	*
OAAW	3008	COMMAND AND CONTROL	TOPGUN	*
OAAW	3009	THREAT PILOT AND TACTICS	TOPGUN	*
SEAD	3013	SEAD PLANNING	MAWTS-1	*
SEAD	3014	THREAT IADS	TOPGUN	*
SEAD	3015	GPS WEAPONS: JSOW	MAWTS-1	*
AI	3017	AIR-TO-GROUND EMPLOYMENT	MAWTS-1	*
AI	3018	STRIKE MISSION PLANNING	MAWTS-1	*
AAD	3021	AIR-TO-AIR MISSION PLANNING	TOPGUN	*
FAC (A)	3022	JCAS - JFAC (A) OVERVIEW	JFAC (A)	*
FAC (A)	3023	JOINT COMMAND AND CONTROL STRUCTURE	JFAC (A)	*
FAC (A)	3024	FIRE SUPPORT COORDINATION MEASURES	JFAC (A)	*

FAC (A)	3025	JTAC EQUIPMENT	JFAC (A)	*
FAC (A)	3026	INTRO TO AVIATION ORDNANCE	JFAC (A)	*
FAC (A)	3027	A/C / SENSOR CAPABILITIES	JFAC (A)	*
FAC (A)	3028	INTRO TO INDIRECT FIRE ASSETS	JFAC (A)	*
FAC (A)	3029	CALL FOR FIRE	JFAC (A)	*
FAC (A)	3030	FAC (A) PLANNING AND PREP	JFAC (A)	*
FAC (A)	3031	JOINT TACTICAL AIRSTRIKE REQUEST	JFAC (A)	*
FAC (A)	3032	CONTROLLING CAS AS A FAC (A)	JFAC (A)	*
FAC (A)	3033	INTRO TO FIXED WING CAS TACTICS	JFAC (A)	*
FAC (A)	3034	ATTACK HELO EMPLOYMENT	JFAC (A)	*
FAC (A)	3035	FAC (A) NIGHT CONSIDERATIONS	JFAC (A)	*
FAC (A)	3036	URBAN FAC (A) CONSIDERATIONS	JFAC (A)	*
FAC (A)	3037	SEAD / EW INTEGRATION	JFAC (A)	*
FAC (A)	3038	FRATRICIDE LESSONS LEARNED	JFAC (A)	*
FAC (A)	3039	TLE COMMUNICATION AND STANDARIZATION	JFAC (A)	*
FAC (A)	3040	MACCS PART I	MAWTS-1	*
FAC (A)	3041	MACCS PART II	MAWTS-1	*
FAC (A)	3042	TARGETING AND FIRE SUPPORT PLANNING	MAWTS-1	*
FAC (A)	3043	GENERAL EMPLOYMENT OF FAC (A), TAC (A), SCAR	MAWTS-1	*
FAC (A)	3044	F-35 FAC (A) EMPLOYMENT	MAWTS-1	*
TAC (A)	3046	F-35 TAC (A) EMPLOYMENT	MAWTS-1	*
CORE PLUS SKILLS/MISSION SKILLS (4000 PHASE EVENTS)				
MIR	4001	TAC RECCE EMPLOYMENT	MAWTS-1	*
AESC	4002	CONVOY ESCORT	MAWTS-1	*
AESC	4003	ASSAULT SUPPORT ESCORT	MAWTS-1	*
AESC	4004	SUPPORTED UNIT CAPABILITIES	MAWTS-1	*
AAD	4005	ROTARY WING THREAT	MAWTS-1	*
AVIATION CAREER PROGRESSION MODEL (ACPM: 8000 PHASE EVENTS)				
COMPLETE WITH CORE SKILL 2000 PHASE	8200	MACCS AGENCIES, FUNCTIONS, AND CONTROL - 8200	MAWTS-1	*
	8201	MWCS BRIEF - 8201	MAWTS-1	*
	8202	ACA AND AIRSPACE	MAWTS-1	*
	8210	AVIATION GROUND SUPPORT	MAWTS-1	*
	8230	ACE BATTLE STAFF	MAWTS-1	*
	8231	BATTLE COMMAND DISPLAY	MAWTS-1	*
	8240	SIX FUNCTIONS OF MARINE AVIATION	MAWTS-1	*
	8241	JTAR/ASR INTRO AND PRACT APPLICATION	MAWTS-1	*
	8242	SITE COMMAND PRIMER	MAWTS-1	*
	8250	THEATER AIR GROUND SYSTEM	MAWTS-1	*

COMPLETE WITH MISSION SKILL 3000 PHASE	8300	AIR DEFENSE	MAWTS-1	*
	8310	FORWARD ARMING REFUELING POINT (FARP) OPS	MAWTS-1	*
	8311	USMC TACTICAL FUEL SYSTEMS	MAWTS-1	*
	8320	JOINT STRUCTURE AND JOINT AIR OPERATIONS	MAWTS-1	*
	8321-8326	JOINT AIR PLANNING & JOINT TASKING	MAWTS-1	*
	8340	INTEGRATING FIRES & AIRSPACE W/IN THE MAGTF	MAWTS-1	*
	8350	PHASING CONTROL ASHORE	MAWTS-1	*
	8351	TACRON ORGANIZATIONS AND FUNCTIONS	MAWTS-1	*
COMPLETE WITH SL/DL DESIG.	8630	TACTICAL AIR COMMAND CENTER (TACC)	MAWTS-1	*
	8660	JOINT OPS INTRO	MAWTS-1	*
	8640	JOINT DATA NETWORK	MAWTS-1	*
	8641	MAGTF THEATER & NAT'L ISR EMPLOYMENT	MAWTS-1	*
	8620	ESG/CSG INTEGRATION	MAWTS-1	*

To ensure the highest quality of training and readiness, squadron commanding officers will ensure that the T&R stage academic syllabus is conducted in accordance with the MAWTS-1 Course Catalog. This squadron academic training should be conducted once a week as a minimum. To add to the quality and scope of lectures given, the commanding officer should ensure that appropriately qualified individuals are sent to the schools listed below as a minimum.

<u>COURSE</u>	<u>ACTIVITY</u>
Weapons and Tactics Instructor (WTI)	MAWTS-1 MCAS Yuma
Marine Division Tactics Course (MDTC)	MAWTS-1
Navy Fighter Weapons School (TOPGUN)	NSAWC NAS Fallon
Warfighter School	Raytheon Tucson

2.7 SYLLABUS NOTES

2.7.1 All events, to include simulators, shall begin with a comprehensive brief with emphasis on admin procedures, CRM, tactical procedures from applicable tactical publications, performance standards, and aircrew expectations.

2.7.2 All events, to include simulators, shall conclude with a comprehensive debrief with emphasis on aircrew performance utilizing all evaluation techniques available.

2.7.3 An ATF is required for any initial event completed by a Basic, Transition, Conversion of Refresher pilot, or as recommended by the squadron standardization board. In addition, ATFs are required for all flight leadership and instructor syllabus events.

2.7.4 The T&R manual is the Marine Corps aircrew training document. It establishes the training requirements and standards for Marine aircrew. When operational commanders assign F-35 squadrons to prolonged commitments where specific T&R training is not available (e.g., deployed aboard CV), it is expected that degradation in some mission areas will occur. Commanding officers are authorized and encouraged to employ the F-35 in specific missions relating to their current situation and avoid those mission areas that are not relevant. It is not intended for squadrons to train to specific mission areas and avoid mission areas that the F-35 is capable of conducting but are difficult to coordinate. This type of mission specific training is

granted only to squadron commanding officers deployed in austere conditions that prevent them from employing the T&R manual as written.

2.7.5 T&R Phases

2.7.5.1 The 2000 phase is considered to be Core Skill phase training. Completion of the 2000 phase should provide the F-35 aircrew with the skills required to execute F-35 missions that directly support the unit METL. New pilots from the FRS must fly the entire 2000 phase T&R events with an Instructor Pilot (IP). These events should be completed within 90 days of joining the unit and this is reportable to higher headquarters.

2.7.5.2 The 3000 phase is considered to be Mission Skill phase training. Completion of the 3000 phase ensures F-35 aircrew are trained to execute missions that support the unit METL.

2.7.5.3 The 4000 phase is considered to have a lower probability of execution or theater specific training and is referred to as Core Plus Skills. Although core plus training events may provide valuable training opportunities, they are not measured as part of the unit reporting unless directed by higher.

2.7.5.4 The 5000 phase contains instructor workup and certification syllabus events, as well as FLSE events.

2.7.5.5 The 6000 phase contains requirements, qualification, and designation syllabus events.

2.7.5.6 The 3000 phase, Mission Skills, along with the number of flight leaders, are considered information required for readiness reporting.

2.7.5.7 The events within a stage should be flown in order. Aircrew should complete the prerequisites prior to beginning that stage. The commanding officer may waive this requirement based on aircrew experience and operational necessity but waivers should be avoided to the greatest extent possible.

2.7.6 Simulators. Flight simulators are required to enhance flight training and airborne proficiency. Simulators shall be flown in the prescribed order of training when squadrons are co-located with mission capable simulators. Where simulators are not available, commanders may authorize simulator events be either deferred to a later date or flown in the aircraft as required. Flight leadership, instructor, and FLSE designations shall not be granted until all events, including simulators, are completed. For these designations, simulator events must be executed in a capable device as prescribed or flown in the aircraft.

2.7.7 Proficiency Accountability. In order to complete a T&R code, aircrew must satisfactorily complete event requirements per assigned Performance Standards. Logging multiple training codes on a single sortie shall be avoided except for the following mission areas:

2.7.7.1 FAC(A), CAS, AR, SCAR, AI - Required ordnance for these events may be changed based on NCEA availability, range restrictions, or other operational constraints. When scheduling sorties, training officers are allowed to schedule additional training codes based on anticipated ordnance delivery profiles if the Performance Standards are met for the ordnance delivered. Exceptions should be made for sorties during which multiple unique training events can be completely accomplished. For example, it is appropriate to log three separate training codes if during the conduct of a

sortie the flight completes all of the specific event requirements for a syllabus event. If multiple syllabus events are to be accomplished during a single flight evolution, appropriate planning, briefing, and debriefing time must be allotted to ensure that requisite training objectives can be met. Multiple codes shall also be logged for 5000 and 6000 phase tracking events.

2.7.8 Requirements coding. Aircraft/Simulators: Some of the syllabus events in the T&R have 1+ or 2+ devices required. 1+ device required implies that the flight may be flown as a single ship or greater. 2+ devices required implies that the flight may be flown as a section or greater. 4(2) simulators required implies that the events may be conducted as a section simulator for commands lacking a division simulation capability. Night (N): refers to the option of conducting the sortie at night.

2.7.9 Sortie Requirements. Sortie requirements state the minimum number of passes, engagements, or maneuvers required to demonstrate proficiency. T&R event requirements are written to allow completion on one sortie. Squadrons who cannot complete all stated requirements in one sortie (e.g., CV squadrons or squadrons limited by range access and regulations) may complete the requirements of an event in multiple sorties as long as the completion sorties are flown in succession and within normal currency windows defined by unit SOP. If an aircrew's currency expires (e.g., a warm up flight is required), or the event requirements cannot be completed on the next scheduled sortie, the event shall be re-flown in its entirety.

2.7.10 Performance Standards. Performance standards are listed for each T&R event description. These are training standards for individual aircrew performance and should be utilized by the evaluator as a guideline to determine the satisfactory completion of each event. If the aircrew did not successfully attain the performance standards, the training code shall not be logged as a completed flight.

2.7.11 T&R Chaining. Event chaining allows for the completion of more complex or advanced events using the same skill to update proficiency status of events. Only events in a sequence entailing demonstration of equivalent skills shall be chained. Refer to the Aviation T&R Program Manual Chapter 2 for detailed guidance on conditional chaining. For the purposes of this T&R, any flight event will chain FAM-2102.

2.7.12 F-35 Tactical T&R Refresher. The F-35 Tactical T&R Refresher syllabus shall be completed in tactical squadrons. Aircrew should fly all R coded events. However, the Refresher aircrew need not fly every event within a stage to be re-qualified in that stage. The commanding officer may tailor the Refresher syllabus to fit the experience level of the aircrew per the Aviation T&R Program Manual. When all of the R coded events within a stage are successfully completed, all remaining events in that stage that are proficient or delinquent are updated. This assumes that the Refresher aircrew had completed all events in the stage during his previous tour. If the Refresher aircrew did not previously complete events in a stage of training, those events must be completed in addition to R coded events. Experienced aircrew (completed at least one fleet tour in an operational unit) who have not flown for an extended period of time, but not long enough to require FRS Refresher training, shall be assigned to the Refresher POI. When an individual assigned to the Basic POI has attained individual CSP in all Core Skills, that individual shall be re-assigned to the Refresher POI.

2.7.13 F-35 FRS Training

2.7.13.1 F-35 FRS training is provided at one of two designated FRSs, VMFAT-501 or VFA-101.

2.7.13.2 Pilot FRS training standards is the FRS approved F-35B/C pilot syllabi.

2.7.13.3 Basic/Transition/Conversion (CAT I/II) aircrew will be assigned to fly the entire FRS Basic (CAT I) training syllabus at a designated FRS training squadron.

2.7.13.4 FRS Refresher syllabi

a. Pilots who have not flown the F-35 in 366 days or greater but less than 485 days will complete a Safe-for-Solo (CAT V) syllabus at a designated FRS training squadron.

b. Aircrew who have not flown the F-35 in 486 days or greater but less than 730 days will complete a Modified Refresher (CAT IV) syllabus at a designated FRS training squadron.

c. Aircrew who have not flown the F-35 in 731 days or greater will complete the comprehensive Refresher syllabus (CAT III) at a designated FRS training squadron.

2.7.14 Environmental Conditions Matrix

Environmental Conditions	
Code	Meaning
N	Shall be flown during hours of darkness, may be aided or unaided
(N)	May be flown during darkness - If flown during hours of darkness; may be flown aided or unaided

2.7.15 Device Matrix

DEVICE	
Symbol	Meaning
A	Flown in Aircraft
S	Flown in Simulator
A/S	Aircraft preferred may be conducted in the simulator
S/A	Simulator preferred may be conducted in the aircraft
G	Ground/academic training. May include Distance Learning, CBT, lectures and self paced training.
Note - If the event is to be flown in the simulator, the Simulator Instructor shall set the desired environmental conditions for the event.	

2.7.16 Program of Instruction Matrix

PROGRAM OF INSTRUCTION MATRIX		
Program of Instruction (POI)	Symbol	Aviation Flying
Basic	B	Initial MOS/Skill Training
Refresher	R	DIFDEN to DIFOPS in same T/M/S
Maintain	M	All individuals who have attained CSP/MSP/CPD by initial POI assignment are re-assigned to the M POI to maintain proficiency.
Modified Refresher	MR	FRS only - See Chapter 4 for specific assignment
Safe For Solo	SS	FRS only - See Chapter 4 for specific assignment

2.7.17 Event Terms

EVENT TERMS	
TERM	DESCRIPTION
Discuss	An explanation of systems, procedures, or maneuvers during the brief, in flight, or post flight. Student is responsible for knowledge of procedures.
Demonstrate	The description and performance of a particular maneuver/event by the instructor, observed by the PUI/student. The PUI/student is responsible for knowledge of the procedures prior to the demonstration of a required maneuver/student.
Introduce	The instructor may demonstrate a procedure or maneuver to a student, or may coach the PUI through the maneuver without demonstration. The PUI performs the procedures or maneuver with coaching as necessary. The PUI is responsible for knowledge of the procedures.
Practice	The performance of a maneuver or procedure by the PUI/student that may have been previously introduced in order to attain a specified level of performance.
Review	Demonstrated proficiency of a maneuver by the PUI/student.
Evaluate	Any flight designed to evaluate aircrew standardization that does not fit another category such as SARCK, HACCK, T2PCK, etc.
E-Coded	This term means an event evaluation form is required each time the event is logged. Requires evaluation by a certified standardization instructor (NATOPS I, WTI, INST Evaluator etc.)

2.8 CORE SKILL INTRODUCTION FRS ACADEMIC PHASE (See 1000 Phase T&R)

2.9 CORE SKILL INTRODUCTION PHASE. (See 1000 Phase T&R).

2.10 CORE SKILL PHASE (2000)

2.10.1 Purpose. To instruct a pilot to a baseline standard in fundamental F-35 employment skills. At the end of this stage, pilot will be able to fly any mission skills sortie with any flight leader.

2.10.2 General

2.10.2.1 Prerequisite. None for the stage. Each sub-phase will have a portion of the Aviation Career Progression Model that shall be completed during that sub-phase.

2.10.2.2 Admin Notes. Attain pilots shall fly each event with an IP within 90 days of joining the squadron.

2.10.2.3 Stages. The following stages are included in the Core Skill Phase of training. Listed below are the TECOM standard abbreviated codes. Reference the 1000 Phase stage name abbreviations for the LM abbreviated joint codes.

Par No.	Stage Name
2.10.3	Familiarization (FAM)
2.10.4	Aerial refueling (AAR)
2.10.5	Basic Air-to-Surface (AS)
2.10.6	Basic Fighter Maneuvering (BFM)
2.10.7	Air Combat Maneuvering (ACM)
2.10.8	Tactical Intercepts (TI)
2.10.9	Non-Sanctuary Tactics (NT)
2.10.10	Suppression/Destruction of Enemy Air Defense (SEAD)
2.10.11	Large Force Exercise (LFE)

2.10.3 FAMILIARIZATION (FAM) STAGE

2.10.3.1 Purpose. To teach the PUI basic F-35 aircraft control, normal procedures, normal checklists, and actions during Emergency Procedures (EPs). Focus of Effort (FOE): Basic aircraft control, aerodynamics, flying qualities, major aircraft systems, and NATOPS procedures. Additionally, FAM is designed for day/night warm-up events.

2.10.3.2 Prerequisite. ACPM 8000, CONTROL OF AIRCRAFT AND MISSILES

SFAM-2101 1.5 90 B,R,M D/N S 1 FMS

Goal. Review familiarization, navigation, and/or instrument flight procedures.

Requirement. Brief shall include at least one aircraft system discussion, SOP discussion and an emergency procedure. Review emergency procedures and checklists. Review takeoffs and landings with simulated emergencies during shore and shipboard operations (basing scenario as required by operational requirements). Review CRM associated with these emergencies. This event should include an emergency to be dealt with in each stage of flight. Conditions and sequence are at the discretion of the console operator or IP.

Performance Standard. Pilot shall execute all normal and emergency procedures IAW NATOPS, local SOPs and FLIP procedures.

Prerequisite. Complete ground/academic training.

FAM-2102 1.5 365 B,R,M (N) A 1 F-35

Goal. Review familiarization, navigation, and/or instrument flight procedures.

Requirement. Review normal procedures to include start, taxi VFR departure and arrival IAW local course rules. Practice instrument procedures to include departure, enroute, and terminal approach procedures.

Performance Standard. Pilot shall demonstrate knowledge of aircraft systems and execute maneuvers IAW NATOPS procedures, FLIP procedures, and local SOPs.

Prerequisite. SFAM-2101

Range. AA,MOA

FAM-2103 1.5 365 B,R,M D A 1 F-35

Goal. Review advanced handling techniques and procedures.

Requirement. Review advanced handling characteristics and familiarize with F-35 performance envelope. Conduct G-awareness maneuver, high AOA maneuvering, max performance and sustained performance turns at 15K'. Aircraft must be in symmetric configuration and CG must be within limits for high AOA flight.

Performance Standard. PUI shall execute all maneuvers IAW NATOPS.

Prerequisite. FAM-2102

Range. AA,MOA

2.10.4 AERIAL REFUELING (AAR) STAGE

2.10.4.1 Purpose. To attain and maintain proficiency and familiarity with aerial refueling operations.

2.10.4.2 General. Operations shall be conducted in accordance with the Air Refueling NATOPS manual. Squadrons may conduct AAR as part of other ferry or tactical missions.

2.10.4.3 Prerequisite. ACPM 8201, MWCS Brief.

2.10.4.4 Admin Notes. Squadrons shall complete the AAR stage briefs before conducting any AAR flight per the NATOPS flight manual, "ATP-56X", and local SOPs. Refresher pilot does not require a chase aircraft.

SAAR-2201 1.5 * B D/N S 1 FMS

Goal. Review day and night AAR procedures.

Requirement. Perform all day and night AAR procedures. Perform 2 tanker rendezvous (1 day, 1 night) and establish observation and astern positions. Execute 6 successful engagements on the refueling probe with 1 under NORDDO conditions. Perform 1 emergency breakaway. Perform tanker departure.

Performance Standards. Execute all AR procedures IAW F-35 NATOPS and "ATP-56X".

Prerequisite. Complete ground/academic training. ACPM-8201

AAR-2202 1.5 365 B,R D A 1+ F-35

Goal. Review day AR procedures.

Requirement. Perform all day AAR procedures. Perform 1 tanker rendezvous and establish observation and astern positions. Execute 6 successful engagements on the refueling probe with 1 under NORDDO conditions. Perform 1 emergency breakaway. Perform tanker departure.

Performance Standards. Execute all AAR procedures IAW F-35 NATOPS and "ATP-56X".

Prerequisite. FAM-2102, SAAR-2201

Range. AAR

External Syllabus Support. 1 tanker with drogue.

AAR-2203 1.5 180 B,R,M N A 1+ F-35

Goal. Review night AAR procedures.

Requirement. Perform night AAR procedures. Perform 1 tanker rendezvous and establish observation and astern positions. Execute 6 successful engagements on the refueling probe with 1 under NORDO conditions. Perform 1 emergency breakaway. Perform tanker departure.

Performance Standards. Execute all AAR procedures IAW F-35 NATOPS, and "ATP-56X".

Prerequisite. SAAR-2201,2202

Range. AAR

External Syllabus Support. 1 tanker with drogue.

2.10.5 BASIC AIR-TO-SURFACE (AS) STAGE

2.10.5.1 Purpose. To give the PUI a solid foundation in air-to-surface (AS) ordnance delivery and strafing in a variety of conditions. Upon completion, PUI should be able to perform AS deliveries in the mission skills phase and should have solid understanding of ordnance, delivery methods, system limitations and techniques.

2.10.5.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements. If the GAU-22/A can be flown on BA 2306/7, it is desirable that PUI also practices strafe on those events.

2.10.5.3 Prerequisite. Familiarization stage. ACPM 8202, AIRSPACE CONTROL AUTHORITY (ACA) AIRSPACE.

2.10.5.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SAS-2301 1.5 90 B,R D/N S 1 FMS

Goal. Review day and night GAU-22/A deliveries from medium altitude.

Requirement. Perform (3) 10 degree, (3) 20 degree, and (3) 30 degree gun deliveries.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3

Adhere to briefed AG timeline

Proper use of sensors to designate and attack with GAU-22/A

Valid release IAW F-35 NTTP 3.22.3

Prerequisite. Complete ground/academic training.

SAS-2302 1.5 365 B,R (N) S 1+ FMS

Goal. Review sensor integration and handoff to LASER guided weapons.

Requirement. Conduct a minimum of 4 runs against varied target arrays with sensor handoff to self-lased delivery profiles. Perform 1 buddy-lased profile from a ground designator. One (1) delivery shall be a dive. LST functionality shall be demonstrated.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3

Adhere to briefed AS timeline

Proper use of sensors to locate, designate, attack and support LGWs
Valid release IAW F-35 NTTP 3.22.3

Prerequisite. Complete ground/academic training.

SAS-2303 1.5 365 B,R (N) S 1+ FMS

Goal. Review sensor integration and handoff to Inertial Aided Munitions (IAM).

Requirement. Conduct level IAM deliveries. Conduct 1 pre-planned delivery. Conduct a minimum of 3 runs against varied target arrays with sensor handoff to TOO or RELNAV deliveries in all weather situations.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3.
Adhere to briefed AS timeline.
Proper use of sensors to locate, designate, attack, and support IAMs.
Valid release IAW F-35 NTTP 3.22.3.

Prerequisite. Complete ground/academic training.

AS-2304 1.5 90 B,R,M D A 2 F-35

Goal. Review day GAU-22/A deliveries from medium altitude.

Requirement. On a scored range perform 3 10 degree, 3 20 degree, and 3 30 degree gun deliveries.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3.
Adhere to briefed AS timeline.
Proper use of sensors to locate, designate, and attack with GAU-22/A.
Valid release IAW F-35 NTTP 3.22.3.

Prerequisite. SAS-2301.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
PGU-23	220	PGU-32	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		LSR, EXP
STRAFE	TGT	IR, RDR

AS-2305 1.5 180 B,R,M N A 2 F-35

Goal. Review night GAU-22/A deliveries from medium altitude.

Requirement. On a scored range perform 3 10 degree, 3 20 degree, and 3 30 degree gun deliveries.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3
Adhere to briefed AS timeline
Proper use of sensors to designate, and attack with GAU-22/A
Valid release IAW F-35 NTTP 3.22.3

Prerequisite. AS-2304

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
PGU-23	220	PGU-32	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		LSR, EXP
STRAFE	TGT	IR, RDR

AS-2306 1.5 180 B,R,M (N) A 2 F-35

Goal. Review sensor integration and handoff to LASER guided weapons.

Requirement. Conduct a minimum of 2 runs against varied target arrays with sensor handoff to self-lase delivery profiles and 2 buddy-lase delivery profiles. Review LST procedures. Conduct strafe, if so equipped and qualified.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3

Adhere to briefed AS timeline

Proper use of sensors to locate, designate, attack, and support LGWs

Valid release IAW F-35 NTTP 3.22.3

Prerequisite. SAS-2302

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		
LGB		
TGT-DISP	TGT	IR, RDR

AS-2307 1.5 180 B,R,M (N) A 2 F-35

Goal. Review sensor integration and handoff to IAMs.

Requirement. Conduct level IAM deliveries. Conduct 1 pre-planned delivery. Conduct a minimum of 3 runs against varied target arrays with sensor handoff to TOO or RELNAV deliveries in all weather situations.

Performance Standards

Execute weapons delivery IAW F-35 NTTP 3.22.3

Adhere to briefed AS timeline

Proper use of sensors to locate, designate, attack, and support IAMs

Valid release IAW F-35 NTTP 3.22.3

Prerequisite. SAS-2303

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-32	2		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		
LSR		
TGT-DISP	TGT	IR, RDR
JDAM		

2.10.6 BASIC FIGHTER MANEUVERING (BFM) STAGE

2.10.6.1 Purpose. To give the PUI a solid foundation WVR AA combat. Upon completion, PUI should have solid understanding of F-35 aerodynamics, performance, system limitations and techniques.

2.10.6.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.6.3 Prerequisite. Familiarization stage, ACPM 8210, and AVIATION GROUND SUPPORT.

2.10.6.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SBFM-2401 1.5 * B D S 2 FMS

Goal. Practice the SSD and basics of offensive BFM. Emphasize concepts / definitions, energy management, LARS, mechanics based on site pictures, and weapons employment.

Requirement. One SSD and three offensive perch set-ups. The offensive starts will be from 3K', 6K', and 9K' separation between aircraft.

Performance Standards

Maintain offensive position
Employ follow on weapons
Separate prior to becoming neutral
Take valid shots

Prerequisites. FAM-2103.

BFM-2402 1.5 180 B,R,M D A 2 F-35

Goal. Practice the SSD and basics of offensive BFM. Emphasize concepts / definitions, energy management, LARS, mechanics based on site pictures, and weapons employment.

Requirement. One SSD and three offensive perch set-ups. The offensive starts will be from 3K', 6K', and 9K' separation between aircraft.

Performance Standards

Maintain offensive position
Employ follow on weapons
Separate prior to becoming neutral

Prerequisites. BFM-2404.

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. AA, EXP

BFM-2406 1.5 365 B,R,M D A 1+ F-35

Goal. Demonstrate understanding and proficiency of all BFM skills against a dissimilar adversary.

Requirement. Two sets from a neutral start.

Performance Standards

Executes appropriate game plan for adversary.

When applicable, employ mission performance standards for OBFM, DBFM, or HA.

Prerequisites. BFM-2405.

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. AA, EXP

External Syllabus Support. 1 dissimilar adversary.

2.10.7 AIR COMBAT MANEUVERING (ACM) STAGE

2.10.7.1 Purpose. To give the PUI a solid foundation BVR to WVR AA combat transition and defensive considerations. Upon completion, PUI should have solid understanding of F-35 PID capabilities and limitations as well as F-35 defensive countermeasures.

2.10.7.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.7.3 Prerequisite. BFM stage, ACPM 8230, ACE BATTLESTAFF.

2.10.7.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SACM-2501 1.5 * B,R D S 2 FMS

Goal. Transition from the BVR to WVR arena to aid a wingman in a neutral/defensive situation.

Requirement. With a minimum of 10 NM separation, PUI shall enter into an established lv1 (between flight lead and adversary) in order to aid wingman. Emphasis shall be on engaged communications, weapons deconfliction and time to kill.

Performance Standards

Accurately ID

Effective section engaged maneuvering

Take valid shots

Prerequisites. BFM-2406.

ACM-2502 1.5 180 B,R D A 2 F-35

Goal. Transition from the BVR to WVR arena to aid a wingman in a neutral/defensive situation.

Requirement. With a minimum of 10 NM separation, PUI shall enter into an established lvl (between flight lead and adversary) in order to aid wingman. Emphasis shall be on engaged communications, weapons de-confliction and time to kill.

Performance Standards

Accurately ID
Effective section engaged maneuvering
Take valid shots

Prerequisites. SACM-2501

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. ACM, EXP, MACH 1+

External Syllabus Support. 1 dissimilar adversary

ACM-2503	1.5	180	B,R,M	D	A	2 F-35
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Goal. Execute the delouse of a wingman with a second adversary an unknown distance/time away from the attacking adversary (2v1+1).

Requirement. Fighters shall start set cold to the adversaries with one fighter in a run-down situation. Fighters shall execute a delouse with a second adversary an unknown distance/time (5-30 NM) away from the attacking adversary.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Execute proper sort, maneuvering targets, SRR mechanics
Recognize offensive and defensive maneuvers
Execute appropriate defensive reactions
Timeline awareness

Prerequisites. ACM-2502.

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. ACM, EXP, MACH 1+

External Syllabus Support. 2 dissimilar adversaries.

2.10.8 TACTICAL INTERCEPT (TI) STAGE

2.10.8.1 Purpose. To give the PUI a solid foundation BVR AA combat. Upon completion, PUI should have solid understanding of F-35 PID capabilities, data link and BVR weapons employment.

2.10.8.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.8.3 Prerequisite. Familiarization stage. ACPM 8231, BATTLE COMMAND DISPLAY.

2.10.8.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

STI-2601 1.5 180 B,R (N) S 2 FMS

Goal. Practice section A/A intercepts against different categories of threats (AR-1/2, SAR-2) where PHID criteria may need to be satisfied by fighters.

Requirement. With a minimum of 60 NM separation the fighter and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ AEA, and maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Execute proper sort, maneuvering targets, SRR mechanics
Recognize offensive and defensive maneuvers
Execute appropriate defensive reactions
Timeline awareness

Prerequisites. Complete ground/academic training.

TI-2602 1.5 180 B,R,M (N) A 2 F-35

Goal. Practice section A/A intercepts against different categories of threats (AR-1/2, SAR-2) where PHID criteria may need to be satisfied by fighters.

Requirement. With a minimum of 60 NM separation the fighter and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ AEA, and maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Execute proper sort, maneuvering targets, SRR mechanics
Recognize offensive and defensive maneuvers
Execute appropriate defensive reactions
Timeline awareness

Prerequisites. STI-2601.

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. ACM, TACTS, EXP, MACH 1+

External Syllabus Support. 2 dissimilar adversaries with AEA.

STI-2603 1.5 180 B,R (N) S 2 FMS

Goal. Introduce section short range commits and section engaged maneuvering. Emphasis should be placed on cold ops, signature management, visual look-out and operating in an AIC unavailable environment.

Requirement. With 30 NM of separation between the fighters and an unknown number of adversaries (AR-1/2, SAR-2) commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Execute proper sort, maneuvering targets, SRR mechanics
Recognize offensive and defensive maneuvers
Execute appropriate defensive reactions
Timeline awareness

Prerequisites. TI-2602

TI-2604 1.5 180 B,R,M (N) A 2 F-35

Goal. Introduce section short range commits and section engaged maneuvering. Emphasis should be placed on visual look-out and operating in an AIC unavailable environment.

Requirement. With 30 NM of separation between the fighters and adversaries (AR-1/2, SAR-2) commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Execute proper sort, maneuvering targets, SRR mechanics
Recognize offensive and defensive maneuvers
Execute appropriate defensive reactions
Timeline awareness

Prerequisites. STI-2603.

Ordnance. CATM-9X, P5/TCTS, 24 Flares

Range. ACM, TACTS, EXP, MACH 1+

External Syllabus Support. 2 dissimilar adversaries employing AEA

STI-2605 1.5 180 B,R,M (N) S 2 FMS

Goal. Introduce sensor mechanics and geometry utilized during A/A intercepts while conducting CMD. Introduce PHID not solved mechanics and VID/escort procedures.

Requirement. Conduct a section AAD mission against multiple types of cruise missiles. Have at least 1 interloper which requires ID/escort.

Performance Standards

Use proper communications throughout all phases of the intercept
Accurately ID
Take valid shots
Proper ICAO procedures
Manage geometry

Prerequisites. STI-2601

2.10.9 NON-SANCTUARY TACTICS (NT) STAGE

2.10.9.1 Purpose. To give the PUI a solid foundation in surface to air counter tactics and defensive measures. Upon completion, PUI should have solid understanding of F-35 performance at low altitude, defensive countermeasures and low altitude considerations.

2.10.9.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.9.3 Prerequisite. Familiarization stage, ACPM 8240, SIX FUNCTIONS INTEGRATION

2.10.9.4 Admin Notes. Stage shall be flown by a MAWTS-1 NT standardized IP. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SNT-2701 1.5 180 B,R,M (N) S 1 FMS

Goal. Practice basic NST below 500' AGL, day and night.

Requirement. Conduct single ship mechanics in accordance with the rules of conduct. A descent to comfort level, basic turns, 50% rule, ridgeline crossings, and 3D maneuvering required for completion.

Performance Standards

Recite all LAT rules from memory without error
Perform maneuvers as briefed
Remain above briefed minimum altitude
Adhere to dive recovery rules

Prerequisites. Complete ground/academic training

NT-2702 1.5 365 B,R,M D A 2 F-35

Goal. Practice TTPs of non sanctuary tactics. Emphasize appropriate maneuvers, rules of conduct and mission cross check times when operating at comfort level (CL), no lower than 300' AGL.

Requirement. Conduct single ship NT mechanics. Three transitions to below 500' AGL and two circuits at below 500' AGL using ridgeline crossings, check turns, hard turns, break turns, and vertical jinks with a climb back to sanctuary are required for completion.

Performance Standards

Recite all LAT rules from memory without error.
Perform maneuvers as briefed.
Remain above briefed minimum altitude.
Adhere to dive recovery rules.

Prerequisites. SNST-2701

Ordnance. 24 Flares

Range. LAT, HI FIE EW, EXP, MACH 1+

SNT-2703 1.5 * B,R D S 1 FMS

Goal. Practice advanced signature management in a high threat environment.

Requirement. Conduct single ship mechanics against varying advanced threats. Perform Minimum Altitude Capable (MAC) mechanics.

Performance Standards

Proper use of defensive countermeasures
Understand and use VSD
Proper signature management

Prerequisites. NST-2602.

2.10.10 SUPPRESSION OF ENEMY AIR DEFENSE (SEAD) STAGE

2.10.10.1 Purpose. To give the PUI a solid foundation in electronic attack and defensive countermeasures. Upon completion, PUI should have solid understanding of F-35 SEAD capabilities and limitations.

2.10.10.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.10.3 Prerequisite. Familiarization stage. ACPM 8241, ASR/JTAR INTRODUCTION AND PRACTICAL APPLICATION CLASS. ACPM 8242, AVIATION SITE COMMAND. ACPM 8250, THEATER AIR GROUND SYSTEM (TAGS).

2.10.10.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SEAD-2801 1.5 180 B,R,M (N) S 2 FMS

Goal. Introduce Electronic Attack basics as a section against tactical surface-to-air missile systems.

Requirements. Discuss ESM equipment, limitations, and capabilities. Discuss radar characteristics, jamming fundamentals, and EW targeting. Introduce section EA coordination.

Performance Standards. Properly makes jamming assignments, either from pre-planned mission data or external fused data.

Prerequisites. Ground academic training.

2.10.11 LARGE FORCE EXERCISE (LFE) STAGE

2.10.11.1 Purpose. To give the PUI exposure to large force exercises and integration. At the end of this stage, PUI should feel comfortable in mission planning and integration into large force formations.

2.10.11.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.10.11.3 Prerequisite. Stage complete for mission executing, exceptions by Commanding Officer approval.

2.10.10.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy platforms. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

LFE-2901 1.5 365 B,R,M (N) A 4+ F-35

Goal. Execute a large force exercise, day or night.

Requirements. Execute a large force exercise with a minimum 10 total blue force assets.

Performance Standards
Properly analyzes mission planning requirements.
Properly reacts to mission changes and pop-up threats.

Prerequisites. 2000 Phase complete.

Ordnance. As directed by mission.

Range. As directed by mission.

External Syllabus Support. 4+ dissimilar adversaries with AEA

2.11 MISSION SKILL PHASE (3000)

2.11.1 Purpose. To assist pilots in practicing mission skills in order to make aircrew proficient in each Mission Essential Task List (METL) mission. At the end of each stage, pilot will be deemed proficient in each mission.

2.11.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.2.1 Prerequisite. All applicable 2000 Phase events. Squadron CO may waive events in accordance with the Aviation T&R Program Manual, NAVMC 3500.14_.

2.11.2.2 Admin Notes. Squadron CO may defer 2000 Phase events as necessary in accordance with the Aviation T&R Program Manual, NAVMC 3500.14_, assuming pilot is proficient in skills needed for particular mission. Automatic chaining is limited in the 3000 Phase. Manually chain the appropriate skill for the mission executed.

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

Par No.	Stage Name
2.11.3	Close Air Support (CAS)
2.11.4	Armed Reconnaissance (AR)
2.11.5	Strike Coordination and Reconnaissance (SCAR)
2.11.6	Offensive Anti-Air Warfare (OAAW)
2.11.7	Active Air Defense (AAD)
2.11.8	Air Interdiction (AI)
2.11.9	Suppression/Destruction of Enemy Air Defense (SEAD)
	Electronic Attack (EA) (subsumed within SEAD Stage)
	Electronic Support (ES) (subsumed within SEAD Stage)
2.11.10	Expeditionary Operations (EXP)

2.11.3 CLOSE AIR SUPPORT (CAS) STAGE

2.11.3.1 Purpose. To provide the PUI a solid foundation in Close Air Support tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 CAS capabilities and limitations.

2.11.3.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.3.3 Prerequisite. 2000 Phase complete, ACPM 8300 AIR DEFENSE, ACPM 8310, FORWARD ARMING AND REFUELING POINT (FARP).

2.11.3.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SCAS-3101 1.5 180 B,R D S 2 FMS

Goal. Execute day section CAS execution under Type 1/2/3 terminal attack control.

Requirement. Execute 4 attacks under Type 1/2 terminal attack control and 1 attack under Type 3 terminal attack control. Emphasize systems and sensor management, target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications. Ordnance reloads are authorized.

Performance Standards

- Execute IAW Joint Publication 3-09.3 CAS
- Execute IAW F-35 NTTP 3.22.3
- Execute briefed holding procedures
- Execute briefed air-to-surface timeline
- Execute briefed surface-to-air counter-tactics
- Correct ALSA Communication Brevity
- TOT +/- 15 seconds

Prerequisite. Complete ground/academic training.

CAS-3102 1.5 180 B,R D A 2 F-35

Goal. Execute day section close air support.

Requirement. Execute CAS for a JTAC or FAC(A). Emphasize systems and sensor management, target PID, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

- Execute IAW Joint Publication 3-09.3 CAS
- Execute IAW F-35 NTTP 3.22.3
- Execute briefed holding procedures
- Execute briefed air-to-surface timeline
- Execute briefed surface-to-air counter-tactics
- Correct ALSA Communication Brevity
- TOT +/- 15 seconds

Prerequisite. SCAS-3101

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2+	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	23		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EW
LGB	JDAM	LSR
STRAFE		
TGT-DISP	COMPLEX, TGT	IR TGT,RDR TGT

External Syllabus Support. JTAC or FAC(A)

SCAS-3103 1.5 180 B,R,M N S 2 FMS

Goal. Execute night section CAS execution under Type 1/2/3 terminal attack control.

Requirement. Execute 4 attacks under Type 1/2 terminal attack control and 1 attack under Type 3 terminal attack control. Emphasize systems and sensor management, target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

- Execute IAW Joint Publication 3-09.3 CAS
- Execute IAW F-35 NTTP 3.22.3
- Execute briefed holding procedures
- Execute briefed air-to-surface timeline
- Execute briefed surface-to-air counter-tactics
- Correct ALSA Communication Brevity
- TOT +/- 15 seconds

Prerequisite. SCAS-3101

CAS-3104 1.5 180 B,R,M N A 2 F-35

Goal. Execute night section close air support.

Requirement. Execute CAS for a JTAC or FAC(A). Emphasize systems and sensor management, target PID, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

- Execute IAW Joint Publication 3-09.3 CAS
- Execute IAW F-35 NTTP 3.22.3
- Execute briefed holding procedures
- Execute briefed air-to-surface timeline
- Execute briefed surface-to-air counter-tactics
- Correct ALSA Communication Brevity
- TOT +/- 15 seconds

Prerequisite. CAS-3102, SCAS-3103.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EW
LGB	JDAM	LSR
STRAFE		
TGT-DISP	COMPLEX, TGT	IR TGT, RDR TGT

External Syllabus Support. JTAC or FAC(A)

SCAS-3105 1.5 180 B,R,M (N) S 2 FMS

Goal. Execute day/night section urban CAS under Type 1/2/3 terminal attack control.

Requirement. Execute 3 attacks under Type 1/2/3 terminal attack control in the urban environment. Emphasize systems and sensor management, urban target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

Execute IAW Joint Publication 3-09.3 CAS
Execute IAW F-35 NTTP 3.22.3
Execute briefed holding procedures
Execute briefed air-to-surface timeline
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity
TOT +/- 15 seconds

Prerequisite. SCAS-3101/3103.

CAS-3106 1.5 365 B,R,M (N) A 2 F-35

Goal. Execute section urban close air support.

Requirement. Execute urban CAS for a JTAC or FAC(A). Emphasize systems and sensor management, urban target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

Execute IAW Joint Publication 3-09.3 CAS
Execute IAW F-35 NTTP 3.22.3
Execute briefed holding procedures
Execute briefed air-to-surface timeline
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity
TOT +/- 15 seconds

Prerequisite. SCAS-3105

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	Sim authorized
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD	MOA	EW
LGB	JDAM	LSR
STRAFE		
URBN WPNS	URBN TRG	

External Syllabus Support. JTAC or FAC(A)

SCAS-3107 1.5 180 B,R,M (N) S 2 FMS

Goal. Introduce section CAS in a high threat environment.

Requirement. Execute 3 attacks under Type 2/3 terminal attack control with prohibitive interference from an advanced threat. Execute reactive suppression of enemy air defenses to permit CAS operations. Emphasize systems and sensor management, target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

Execute IAW Joint Publication 3-09.3 CAS
Execute IAW F-35 NTTP 3.22.3
Execute briefed holding procedures
Execute briefed air-to-surface timeline
Execute reactive SEAD IAW F-35 NTTP 3.22.3
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity
TOT +/- 15 seconds

Prerequisite. SSEA-2801, SCAS 3101/3103

2.11.4 ARMED RECONNAISSANCE (AR) STAGE

2.11.4.1 Purpose. To provide the PUI a solid foundation in Armed Reconnaissance tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 AR capabilities and limitations.

2.11.4.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.4.3 Prerequisite. 2000 Phase complete, ACPM 8311 MARINE CORPS TACTICAL FUEL SYSTEMS.

2.11.4.4 Admin Notes. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SAR-3201 1.5 180 B,R (N) S 2 FMS

Goal. Execute section day and night armed reconnaissance.

Requirement. Brief ROE and a target precedence list. Detect, recognize, and PID targets and with sensors. Execute a minimum of 3 attacks with PGMs and gun. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3.
Execute IAW SCAR MTTP.
Execute briefed visual/sensor reconnaissance procedures.
Engage targets IAW briefed TPL and ROE.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air counter-tactics.
Correct ALSA Communication Brevity.

Prerequisite. Complete with academic/ground training.

AR-3202 1.5 180 B,R D A 2 F-35

Goal. Execute day section armed reconnaissance.

Requirement. Brief ROE and a target precedence list. Detect, recognize, and PID targets with on-board systems and sensors. Execute reactive SEAD during AR operations. Execute a minimum of 3 attacks with PGMs. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3

Execute IAW SCAR MTTP

Engage targets IAW briefed TPL and ROE

Execute briefed air-to-surface timeline

Execute briefed surface-to-air counter-tactics

Correct ALSA Communication Brevity

Prerequisite. AR-3201.

Ordinance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2+	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EW
LGB	JDAM	LSR
STRAFE		
TGT-DISP	COMPLEX, TGT	IR TGT,RDR TGT

AR-3203 1.5 180 B,R,M N A 2 F-35

Goal. Execute night section armed reconnaissance.

Requirement. Brief ROE and a target precedence list. Detect, recognize, and PID targets with on-board systems and sensors. Execute reactive SEAD during AR operations. Execute a minimum of 3 attacks with PGMs. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3

Execute IAW SCAR MTTP

Engage targets IAW briefed TPL and ROE

Execute briefed air-to-surface timeline

Execute briefed surface-to-air counter-tactics

Correct ALSA Communication Brevity

Prerequisite. AR-3202

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2+	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
RSTD		EW
LGB	JDAM	LSR
STRAFE		
TGT-DISP	COMPLEX, TGT	IR TGT, RDR TGT

2.11.5 STRIKE COORDINATION AND RECONNAISSANCE (SCAR) STAGE

2.11.5.1 Purpose. To give the PUI a solid foundation in Strike Coordination and Reconnaissance tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 SCAR capabilities and limitations.

2.11.5.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.5.3 Prerequisite. 2000 Phase complete, AR-3203, and ACPM 8320 JOINT STRUCTURE & JOINT AIR OPERATIONS.

2.11.5.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy strike platform. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SSCAR-3301 1.5 180 B,R (N) S 4 FMS

Goal. Introduce Strike Coordination and Reconnaissance basics.

Requirement. Execute sortie as the SCAR. Brief ROE and a target precedence list. Detect, recognize, and PID targets with on-board sensors. Execute coordination of strikes with one FW striker section. Assess target destruction. Execute a minimum of 4 attacks with PGMS with a minimum of 1 attack internal to the SCAR flight. Execute reactive SEAD in support of SCAR operations. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3
Execute IAW SCAR MTTP
Engage targets IAW briefed TPL and ROE
Execute briefed air-to-surface timeline
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity

Prerequisite. Complete with academic/ground training, AR-3203.

SCAR-3302 1.5 180 B,R,M (N) A 2 F-35

Goal. Execute strike coordination and reconnaissance basics.

Requirement. Execute sortie as SCAR. Brief ROE and a target precedence list. Detect, recognize, and PID targets with on and off board sensors. Emphasize targeting information from off-board assets in the C3 structure. Execute coordination of target strikes with at least two striker sections (FW/RW). Assess target destruction. Execute a minimum of 2 attacks with a minimum of 1 attack internal to the SCAR flight. Execute reactive SEAD in support of SCAR operations. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3
Execute IAW SCAR MTTP
Engage targets IAW briefed PTL and ROE
Execute briefed air-to-surface timeline
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity

Prerequisite. AR-3203, SCAR-3301

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2+	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		
LGB	JDAM	LSR
STRAFE		
TGT-DISP	COMPLEX, TGT	IR TGT,RDR TGT
EW		

External Syllabus Support. Minimum 2 strike platforms.

SSCAR-3303 1.5 365 B,R,M (N) S 4 FMS

Goal. Execute large force strike coordination and reconnaissance basics.

Requirement. Execute sortie as SCAR. Brief ROE and a priority target list. Detect, recognize, and PID targets with on and off board sensors. Emphasize targeting information from off-board assets in the C3 structure. Execute coordination of target strikes with at least 3 striker sections (FW/RW). Assess target destruction. Execute a minimum of 2 attacks with a minimum of 1 attack internal to the SCAR flight. Execute reactive SEAD in support of SCAR operations. Communicate MISREP to simulated MACCS.

Performance Standards

Execute IAW F-35 NTTP 3.22.3
Execute IAW SCAR MTTP
Engage targets IAW briefed TPL and ROE

Execute briefed air-to-surface timeline
Execute briefed surface-to-air counter-tactics
Correct ALSA Communication Brevity

Prerequisite. SSCAR-3301

2.11.6 OFFENSIVE ANTI-AIR WARFARE (OAAW) STAGE

2.11.6.1 Purpose. To give the PUI a solid foundation in Offensive Anti-Air Warfare tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 OAAW capabilities and limitations.

2.11.6.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.6.3 Prerequisite. 2000 Phase complete and ACPM 8321-26 JOINT AIR PLANNING & JOINT TASKING.

2.11.6.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy platforms. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SOAAW-3401 1.5 180 B,R,M (N) S 4 FMS

Goal. Conduct a division pre-strike sweep, in support of a strike package some distance behind (Gen IV), against an unknown number of AR-2 threats that employ AEA.

Requirement. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Execute proper sensor mechanics
Target as directed
Recognize threat tactics
Take valid shots
Timeline awareness

Prerequisites. TI-2605

SOAAW-3402 1.5 180 B,R N S 4 FMS

Goal. Conduct a night division close escort / screen, in support of a strike package (Gen IV), against an unknown number of AR-2 threats that employ AEA.

Requirement. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Execute proper sensor mechanics.
Target as directed.
Recognize threat tactics.
Take valid shots.
Timeline awareness.

Prerequisites. SOAAW-3401.

OAAW-3403 1.5 180 B,R,M (N) A 4 F-35

Goal. Conduct a division close escort/screen, in support of a strike package (Gen IV), against an unknown number of AR-2 threats that employ AEA.

Requirement. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

- Execute proper sensor mechanics
- Target as directed
- Recognize threat tactics
- Take valid shots
- Timeline awareness

Prerequisites. SOAAW-3402

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		
P5/TCTS			

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EW,EXP,MACH 1+
TACTS		

External Syllabus Support. 4+ dissimilar adversaries with AEA

2.11.7 ACTIVE AIR DEFENSE (AAD) STAGE

2.11.7.1 Purpose. To give the PUI a solid foundation in Offensive Anti-Air Warfare tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 OAAW capabilities and limitations.

2.11.7.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.7.3 Prerequisite. 2000 Phase complete. ACPM 8340, INTEGRATING FIRES & AIRSPACE WITHIN THE MAGTF. ACPM 8350, PHASING CONTROL ASHORE.

2.11.7.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy platforms. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SAAD-3501 1.5 365 B (N) S 2 FMS

Goal. Conduct a section point defense against an unknown number of AR-2 adversaries and cruise missiles. Emphasize FEZ management, targeting, and fighter tether management.

Requirement. One defined vulnerability period required for completion. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

- Execute proper sensor mechanics
- Target as directed
- Recognize threat tactics
- Take valid shots
- Timeline awareness
- Tactical decision making IAW mission objectives

Prerequisites. TI-2605

AAD-3502 1.5 180 B,R (N) A 2 F-35

Goal. Conduct a point defense against an unknown number of AR-2 adversaries and cruise missiles. Emphasize FEZ management, targeting, and fighter tether management.

Requirement. One defined vulnerability period required for completion. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

- Execute proper sensor mechanics
- Target as directed
- Recognize threat tactics
- Take valid shots
- Timeline awareness
- Tactical decision making IAW mission objectives

Prerequisites. AAD-3501.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		

External Syllabus Support. 4+ dissimilar adversaries

SAAD-3503 1.5 180 B,R (N) S 4 FMS

Goal. Conduct a division area defense against an unknown number of AR-2 adversaries and cruise missiles. Emphasize FEZ management, targeting, and fighter tether management.

Requirement. One defined vulnerability period required for completion. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

- Execute proper sensor mechanics
- Target as directed
- Recognize threat tactics
- Take valid shots
- Timeline awareness
- Tactical decision making IAW mission objectives

Prerequisites. AAD-3501

AAAD-3504 1.5 180 B,R,M (N) A 4 F-35

Goal. Conduct a division area defense against an unknown number of AR-2 adversaries and cruise missiles. Emphasize FEZ management, targeting, and fighter tether management.

Requirement. One defined vulnerability period required for completion. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

- Execute proper sensor mechanics
- Target as directed
- Recognize threat tactics
- Take valid shots
- Timeline awareness
- Tactical decision making IAW mission objectives

Prerequisites. SAAD-3503

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		

External Syllabus Support. 4+ dissimilar adversaries with AEA.

2.11.8 AIR INTERDICTION (AI) STAGE

2.11.8.1 Purpose. To give the PUI a solid foundation in Air Interdiction tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 AI capabilities and limitations.

2.11.8.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.8.3 Prerequisite. 2000 Phase complete and ACPM 8630 TACTICAL AIR COMMAND CENTER (TACC).

2.11.8.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy platforms. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SAI-3601 1.5 180 B,R D S 2 FMS

Goal. Conduct a day section AI mission, delivering IAMs, against a target that is protected by an IADS employing tactical SAMs and SAR-2/AR-1 aircraft.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponer a specific target that is obscured by weather.

Performance Standards.

Recognize and react appropriately to threats
Adhere to planned air-to-air/air-to-ground timeline and target area tactics
Deliver weapons on planned DPI
Take valid shots

Prerequisites. AS-2304, TI-2605

AI-3602 1.5 180 B,R D A 2 F-35

Goal. Conduct a day section AI mission, delivering IAMs, against a target that is protected by an IADS employing tactical SAMs and SAR-2/AR-1 aircraft.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponer a specific target that is obscured by weather.

Performance Standards

Recognize and react appropriately to threats
Adhere to planned air-to-air/air-to-ground timeline and target area tactics
Deliver weapons on planned DPI
Take valid shots

Prerequisites. SAI-3601

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-32	1	GBU-12	2 DESIRED
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		
RSTD		
HI FI EW	EW, ICM	
COMPLEX	TGT	LGB, JDAM

External Syllabus Support. 3+ dissimilar adversaries with AEA.

SAI-3603 1.5 180 B N S 4 FMS

Goal. Conduct a night division AI mission, delivering PGMs against a target that is protected by an IADS employing tactical SAMs and SAR-2/AR-1/2 aircraft.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponeer a specific target.

Performance Standards

Recognize and react appropriately to threats
Adhere to planned air-to-air/air-to-ground timeline and target area tactics
Deliver weapons on planned DPI
Take valid shots

Prerequisites. SAI-3601

AI-3604 1.5 180 B D A 4 F-35

Goal. Conduct a day division AI mission, delivering PGMs, against a target that is protected by an IADS employing tactical SAMs and SAR-2/AR-1/2 aircraft.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponeer a specific target.

Performance Standards

Recognize and react appropriately to threats
Adhere to planned air-to-air/air-to-ground timeline and target area tactics
Deliver weapons on planned DPI
Take valid shots

Prerequisites. AI-3602,3603

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-32	1/2	GBU-12	TGT DEPD
CATM-9X	1		OPTIONAL
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		
RSTD		
HI FI EW	EW, ICM	
COMPLEX	TGT	LGB, JDAM

External Syllabus Support. 4+ dissimilar adversaries with AEA

AI-3605 1.5 180 B,R,M N A 4 F-35

Goal. Conduct a night division AI mission, delivering PGMs guided by employing aircraft, against a target that is protected by an IADS employing tactical SAMs and SAR-2/AR-1/2 aircraft.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponeer a specific target.

Performance Standards

Recognize and react appropriately to threats

Adhere to planned air-to-air/air-to-ground timeline and target area tactics

Deliver weapons on planned DPI

Take valid shots

Prerequisites. AI-3604

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-32	1/2	GBU-12	TGT DEPD
CATM-9X	1		OPTIONAL
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		
RSTD		
HI FI EW	EW, ICM	
COMPLEX	TGT	LGB, JDAM

External Syllabus Support. 4+ dissimilar adversaries with EA

2.11.9 SUPPRESSION/DESTRUCTION OF ENEMY AIR DEFENSE (SEAD) STAGE

2.11.9.1 Purpose. To give the PUI a solid foundation in SEAD/DEAD tactics, techniques and procedures. Upon completion, PUI should have solid understanding of F-35 SEAD/DEAD capabilities and limitations.

2.11.9.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.11.9.3 Prerequisite. 2000 Phase complete. ACPM 8641, NATIONAL, THEATRE, & MAGTF ISR EMPLOYMENT.

2.11.9.4 Admin Notes. Integration with legacy platforms is desired. In the event the sortie, to include the simulator, cannot be sourced by F-35 assets, it is permitted to source/link with any legacy platforms. Each brief should include a discussion of aircraft systems/ordnance being used that event. PUI should be familiar with system capabilities and limitations for each event.

SSEAD-3701 1.5 180 B,R N S 4 FMS

Goal. Review the F-35's SEAD/DEAD capabilities against a robust IADs, at night. Emphasis should be on division coordination. To the greatest extent possible, these events should include an S-2 intelligence scenario, brief, and debrief.

Requirements. Execute a SEAD/DEAD mission against a tactical SAM array. Properly utilize sensor optimization in SEAD/DEAD role, including identifying target candidates exercising ATR functionality. Utilize fused data to execute proper division EA tactics. Conduct appropriate weapons delivery from medium and high altitudes.

Performance Standards

Properly analyzes mission planning requirements
Properly conducts EW targeting in support of mission
Properly execute self-protect and stand-off jamming tactics in support of strike against multiple tactical SAMs IAW NTTP 3-22.3
Properly reacts to mission changes and pop-up threats

Prerequisites. SEA-2801, AI-3603

SEAD-3702 1.5 180 B,R,M (N) A 4 F-35

Goal. Review division SEAD/DEAD tactics against an ATS range. Emphasis should be on division coordination, mission analysis, EW planning, and division weapon systems integration. To the greatest extent possible, these events should include an S-2 intelligence scenario, brief, and debrief. Where available, the ATS Operators shall provide in-flight and/or post-flight feedback and measures of effectiveness to the mission aircrew.

Requirements. Execute a SEAD/DEAD mission against a tactical SAM array. Properly utilize sensor optimization in SEAD/DEAD role, including identifying target candidates exercising ATR functionality. Utilize fused data to execute proper division EA tactics. Conduct appropriate weapons delivery from medium and high altitudes.

Performance Standards

Properly analyzes mission planning requirements
Properly conducts EW targeting in support of mission
Properly execute self-protect and stand-off jamming tactics in support

of strike against multiple tactical SAMs IAW NTTP 3-22.3
Properly reacts to mission changes and pop-up threats

Prerequisites. SEAD-3701

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-32	2	GBU-12	TGT DEPD
CATM-9X	1		OPTIONAL
FLARES	24		

Ordnance

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		
RSTD		
ICM	HI FI EW,EW	
COMPLEX	TGT	LGB,JDAM

2.11.10 EXPEDITIONARY SHORE-BASED OPERATIONS (EXP) STAGE

2.11.10.1 Purpose. Maintain proficiency in operations at airfields away from home field and/or theater.

2.11.10.2 Prerequisite. Familiarization stage complete.

2.11.10.3 Admin Notes. This code can be combined with any other mission.

EXP-3801 1.5 365 B,R,M (N) A 1 F-35

Goal. Review expeditionary shore-based operations.

Requirements. Review procedures specific to CONUS airfields other than local fields. Review special procedures for airfields outside CONUS including any unique flight filing requirements.

Performance Standards. Successfully conduct take-off and landing operations. This flight code shall be logged in conjunction with any other training flight when executed outside of the home field boundaries.

Prerequisites. FAM 2102.

External Syllabus Support. PPR at airfield.

2.12 CORE PLUS SKILL PHASE (4000)

2.12.1 Purpose. To assist pilots in practicing mission skills in order to make aircrew proficient in each Core Plus skill. At the end of each stage, pilot will be deemed proficient in each mission.

2.12.2 General. This phase contains Core Plus Skills training a community may accomplish. Although Core Plus Skills training events may provide valuable training opportunities, they are not measured as part of unit capability reporting. Skills contained in this phase are associated with low

probability of execution and/or theater/basing specific requirements. This phase of training allows additional unit training flexibility.

2.12.2.1 Prerequisite. All applicable 2000 Phase events.

2.12.2.2 Admin Notes. Squadron CO may waive 2000 Phase events as necessary assuming pilot is proficient in skills needed for particular mission. Automatic chaining is limited in the 4000 stage. Manually chain the appropriate skill for the mission executed.

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

Par No.	Stage Name
2.12.3	Forward Operating Base Operations (FB)
2.12.4	Field Expeditionary/Carrier Landing Qualification (FCLP/CQ)
2.12.5	Multi-Sensor Imagery Reconnaissance (MIR)

2.12.3 FORWARD OPERATING BASE OPERATIONS (FOB)

2.12.3.1 Purpose. Complete FOB qualification in support of Shore-Based Expeditionary Restricted operations.

2.12.3.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.12.3.3 Prerequisite. Familiarization phase complete.

2.12.3.4 Admin Notes. An LSS shall instruct all events.

SFOB-4101 1.5 * B,R (N) S 1 FMS

Goal. Practice FOB operations.

Requirements. Perform a minimum of 6 takeoffs and landings to an air facility. Execute day and night procedures. Emphasis will be on FOD avoidance and emergency procedures.

Performance Standard

Execute all procedures IAW NATOPS
Achieve an average pass grade of 2.5

Prerequisites. FAM-2102

External Syllabus Support. LSS.

FOB-4102 1.5 365 B,R D A 1+ F-35

Goal. Practice day FOB operations.

Requirements. Perform a minimum of 6 takeoffs and landings to an actual or simulated air facility. Instruction shall emphasize FOD avoidance procedures, line-up control, accurate touchdown point, and ground speed. A minimum of 4 takeoffs and landings is required for completion.

Performance Standard

Execute all procedures IAW NATOPS
Achieve an average pass grade of 2.5

Prerequisites. SFOB-4101.

External Syllabus Support. Air Facility or Road and LSS.

FOB-4103 1.5 365 B,R,M N A 1+ F-35

Goal. Practice night FOB operations.

Requirements. Perform a minimum of 6 takeoffs and landings to an actual or simulated air facility. Instruction shall emphasize FOD avoidance procedures, line-up control, accurate touchdown point, and ground speed. A minimum of 4 takeoffs and landings is required for completion.

Performance Standard

Execute all procedures IAW NATOPS
Achieve an average pass grade of 2.5

Prerequisites. FOB-4102.

External Syllabus Support. Air Facility or Road and LSS.

2.12.4 FIELD EXPEDITIONARY/CARRIER LANDING QUALIFICATION (FCLP/CQ) STAGE

2.12.4.1 Purpose. To practice for carrier operations or qualify for SELF operations.

2.12.4.2 General. The FCLP simulator is a prerequisite for the corresponding training flight when qualification is aboard a CV/LHD(A). Each FCLP flight is a training flight for CV/LHD(A) qualification. Completion of FCLP-4102 completes the SELF qualification syllabus. Completion of CQ-4104 completes the Carrier qualification syllabus.

2.12.4.3 Prerequisite. Ground training IAW LSO NATOPS.

2.12.4.4 Admin Notes. An LSO shall instruct all events. LSO's shall determine the qualification of a pilot based IAW LSO NATOPS and performance.

SFCLP/CQ-4201 1.5 * B,R (N) S 1+ FMS

Goal. Conduct simulated carrier landings using Case I and Case III procedures. Emphasize pattern procedures, landing technique, deck procedures, and emergency procedures.

Requirements. Perform Case I and two Case III recoveries to multiple carrier landings. Four passes required for completion. Simulator must be monitored by an LSO.

Prerequisites. FAM-2102

External Syllabus Support. LSO

FCLP/CQ-4202 1.5 365 B,R D A 1+ F-35

Goal. Practice day FCLP procedures or qualify for day expeditionary landing operations.

Requirement. Conduct FCLPs under the control of an LSO. Six touch and go's required for completion. For EQ, perform four touch and go's, an arrested landing, and a launch from an expeditionary airfield.

Performance Standards

Fly five passes IAW LSO NATOPS criteria
Respond quickly and safely to all communications and comm out signals from LSO if required

Prerequisite. FAM-2102, SCQ-4201

Range Requirement. SELF or airfield with FCLP pattern, carrier box, and Fresnel lens.

External Syllabus Support. LSO

FCLP/CQ-4203 1.5 365 B,R,M N A 1 F-35

Goal. Practice night FCLP procedures or qualify for night expeditionary landing operations.

Requirement. Conduct FCLPs under the control of an LSO. Six touch and go's required for completion. For EQ, perform four touch and go's, an arrested landing, and a launch from an expeditionary airfield.

Performance Standards

Fly five passes IAW LSO NATOPS Criteria
Respond quickly and safely to all communications and comm out signals from LSO if required

Prerequisite. FAM-2102, FCLP-4202.

Range Requirement. SELF or airfield with FCLP pattern, carrier box, and Fresnel lens. For CQ, CV-compatible ACLS or ICLS.

External Syllabus Support. LSO.

FCLP/CQ-4204 1.5 365 B,R D A 1 F-35

Goal. Qualify for day carrier landing operations.

Requirement. IAW LSO NATOPS.

Performance Standards. IAW LSO NATOPS.

Prerequisite. FAM-2102, FCLP-4202

External Syllabus Support. LSO

FCLP/CQ-4205 1.5 365 B,R,M N A 1 F-35

Goal. Qualify for night carrier landing operations.

Requirement. IAW LSO NATOPS.

Performance Standards. IAW LSO NATOPS.

Prerequisite. FAM-2102, FCLP-4203, CQ-4204.

External Syllabus Support. LSO.

2.12.5 MULTI-SENSOR IMAGERY RECONNAISSANCE (MIR) STAGE

2.12.5.1 Purpose. Develop proficiency at multi-sensor imagery reconnaissance with all F-35 sensors.

2.12.5.2 General. Emphasize integrated mission planning, search profiles, sensor employment, and information flow through the C3 system. Both pre-planned collection and targets of opportunity techniques will be executed.

2.12.5.3 Prerequisite. 2000 phase complete.

2.12.5.4 Admin Notes. Integrated planning with S-2 is required.

MIR-4301 1.5 365 B,R,M (N) A 2 F-35

Goal. Introduce tactics, techniques, and procedures associated with Non-Traditional Intelligence, Surveillance and Reconnaissance (NTISR)

missions. Emphasize mission planning, target acquisition, and collection of target data for S-2 analysis.

Requirement. Conduct medium altitude NTISR within a notional killbox as a section to detect both pre-planned targets and targets of opportunity within a permissive environment.

Performance Standards

Conduct NTISR of named areas of interest and detect targets
Properly identify targets within the area of interest
Effectively communicate position and description of target
Effectively manage sensor search to minimize time to detect

Prerequisites. SMIR-3201

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
<i>RSTD</i>		
<i>RECCE ARRAY</i>		<i>LSR</i>

External Syllabus Support. S-2 reconnaissance deck.

2.13 CORE PLUS MISSION SKILLS PHASE (4000)

2.13.1 Purpose. To assist pilots in practicing mission skills in order to make aircrew proficient in each Core Plus Mission Essential Task List (METL) mission. At the end of each stage, pilot will be deemed proficient in each mission.

2.13.2 General. This phase contains Mission Plus Skills training a community may accomplish. Although Core Plus Skills training events may provide valuable training opportunities, they are not measured as part of unit capability reporting. Skills contained in this phase are associated with low probability of execution and/or theater/basing specific requirements. This phase of training allows additional unit training flexibility.

2.13.2.1 Prerequisite. All applicable 3000 Phase events.

2.13.2.2 Admin Notes. Squadron CO may waive 3000 Phase events as necessary assuming pilot is proficient in skills needed for particular mission.

2.13.2.3 Stages. The following stages are included in the Mission Plus Skill Phase of training.

Par No.	Stage Name
2.13.3	Aerial Escort (AESC)
2.13.4	Attack Enemy Maritime Targets (AMT)
2.13.5	Forward Air Controller (Airborne) (FAC(A))
2.13.6	Tactical air Coordinator (Airborne) (TAC(A))

2.13.3 AERIAL ESCORT (AESC) STAGE

2.13.3.1 Purpose. To develop proficiency in conducting convoy and assault support escort missions.

2.13.3.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.13.3.3 Prerequisite. AR stage complete.

2.13.3.4 Admin Notes. Emphasize mission planning, tactical decision making, element positioning, threat acquisition, neutralization or destruction.

AEESC-4401 1.5 365 B,R,M (N) A 2 F-35

Goal. Conduct convoy escort. Emphasize mission planning, target precedence, search pattern, attack parameters, delivery modes, designation techniques, and information flow through the C³ system.

Requirement. Conduct convoy escort along a route to locate and destroy targets of opportunity in a low or medium threat environment.

Performance Standards

Locate and attack targets
Inform convoy leader of threats
Maintain mutual support with convoy
Effectively communicate status of convoy to C³ agencies

Prerequisite. AR-3203

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD	MOA	EXP
TGT-MOVE	TGT-DISP, TGT	LGB, JDAM

External Syllabus Support. One vehicle convoy. Two rotary wing escort aircraft desired.

AEESC-4402 1.5 365 B,R,M (N) A 2+ F-35

Goal. Conduct assault support escort. Emphasize mission planning, target precedence, search pattern, attack parameters, delivery modes, designation techniques, and information flow through the C³ system.

Requirement. Conduct assault support along a route to locate and destroy targets of opportunity in a low or medium threat environment.

Performance Standards

Locate and attack targets
Inform assault support flight of threats
Maintain mutual support with assault support package
Effectively communicate status of assault support package to C³ agencies

Prerequisite. Ar-3203

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD	MOA	EXP
TGT-MOVE	TGT-DISP, TGT	LGB, JDAM

External Syllabus Support. One Assault Support element.

AESC-4403 1.5 * B (N) A 2 F-35

Goal. Introduce escort procedures for FAC(A) wingman.

Requirement. Perform wingman duties during a FAC(A) mission. Provide mutual support, threat lookout, and duties assigned by the FAC(A) aircraft. Emphasis on communications relay and backup marks.

Performance Standards

Maintain mutual support and threat lookout throughout mission
Maintain situational awareness to rapidly assist FAC(A) with backup marks and alternate radio communications

Prerequisite. AS and CAS complete.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP, EW
JCAS		SST

External Syllabus Support. 2+ CAS aircraft. Indirect fire and C³ agencies preferred.

2.13.4 ATTACK ENEMY MARITIME TARGETS (AMT) STAGE

2.13.4.1 Purpose. To conduct sea control missions.

2.13.4.2 General. These sorties are designed to be flown by a squadron as part of their training program in preparation for deployment as part of a CBG/ARG.

2.13.4.3 Prerequisite. AI and AR stage complete.

2.13.4.4 Admin Notes. Refer to NSAWC and applicable Strike-Fighter Wing Weapons School courses.

AMT-4501 1.5 365 B,R,M (N) A 2 F-35

Goal. Conduct a Sea Surface Control (SSC) mission in support of the Anti-Surface Warfare Commander's objectives. Emphasize target acquisition, identification, command and control coordination, and weapons employment, if required.

Requirement. Conduct SSC in the assigned sector to locate, classify, identify, and engage surface contacts.

Performance Standards

- Locate assigned targets using all available sensors
- Classify and identify surface contacts based on briefing and mission planning
- Obtain mission recorder data and/or target photographs of assigned targets
- Engage surface contacts with appropriate weapons
- Use clear, concise, correct communication with command and control agencies to maintain information flow

Prerequisite. AR-3203

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
MOA		

External Syllabus Support Required. Controlling naval surface platform.

AMT-4502 1.5 365 B,R,M (N) A 2 F-35

Goal. Conduct a section or division War-at-Sea Exercise (WASEX) strike mission. Emphasize mission planning, target acquisition, tactical decision-making, mutual support, threat reaction, and target destruction.

Requirement. Attack and destroy hostile naval forces. Select appropriate weapons for assigned target/target sets. Execute ingress, ordnance delivery, and egress tactics consistent with the threat.

Performance Standards

- Locate assigned targets using all available sensors
- Classify and identify surface contacts based on briefing and mission planning
- Maintain pre-briefed formation and mutual support
- Recognize and reacts appropriately to threats
- Engage surface contacts with appropriate weapons
- Use clear, concise, correct communication with command and control agencies to maintain information flow.

Prerequisite. AMT-4501, AI-3605

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
MOA		

External Syllabus Support Required. Controlling naval surface platform.

2.13.5 FORWARD AIR CONTROLLER (AIRBORNE) STAGE

2.13.5.1 Purpose. To develop proficiency in FAC(A)

2.13.5.2 General

a. The JCAS AP MOA 2004-02 with update of 21 July 2008 (referred to as the JFAC(A) MOA) provides the minimum standard for certification and qualification as a FAC(A). Meeting the T&R syllabus requirements for FAC(A) will meet or exceed the JFAC(A) MOA requirements for training and controls (12 controls; 8 of these 12 controls must be Type 1, 8 controls must be fixed wing, 4 controls must have CAS assets expend live or training ordnance, and at least 1 must be at night). The JFAC(A) MOA can be found on the SIPRNET at <http://jfac.mawts1.usmc.smil.mil>. Aircrew conducting FAC(A) operations shall comply with the policies contained in the most recent version of the JFAC(A) MOA.

b. Nonqualified aircrew will fly FAC(A)-4603 through FAC(A)-4612 with a MAWTS-1 certified F-35 FAC(A)I, AV-8B FAC(A)I, FA-18A/C FAC(A)I, or FA-18D FAC(A)I crew designated by the commanding officer. The FAC(A)I will be in the escort aircraft. The FAC(A)I may simulate the JTAC if one is not available. The SFAC(A)-4801 and 4802 will be completed with a FAC(A)I at the simulator console.

c. Upon successful completion of SFAC(A)-4601 through FAC(A)-4512 and compliance with JFAC(A) MOA certification requirements, the commanding officer may issue a T&R FAC(A) qualification as well as a JFAC(A) MOA FAC(A) certification.

d. A non-qualified FAC(A) pilot must have a FAC(A)I in the section and may not control CAS aircraft delivering actual ordnance closer than the most conservative of minimum safe distance, 1000 meters, or range regulations. A FAC(A) qualified pilot may not employ CAS aircraft delivering actual ordnance closer than the most conservative of minimum safe distance or range regulations.

e. FAC(A)-4610 through FAC(A)-4612 are exercises in integrating the fire support assets previously controlled separately in the FAC(A) syllabus. The intent is to expose prospective FAC(A) aircrew to the unique challenges posed by each asset when integrated with FW CAS. Each sortie should concentrate on the integration procedures for a different asset, culminating in a final FAC(A)-4511 check ride using multiple fire support assets. If FAC(A)-4611 integrates IDF assets, FAC(A)-4612 should integrate RW/UAS CAS and vice versa. If RW/UAS assets are integrated, emphasis should be combined or sectorized sequential/simultaneous attacks. If IDF is integrated, emphasis should be on altitude or lateral de-confliction of fires. At a minimum, IDF must be integrated into one of the sorties in the FAC(A)-4611 through FAC(A)-4512, with FAC(A)-4611 being the preferred sortie.

f. Failure to meet JFAC(A) MOA currency requirements, or loss of proficiency (delinquent reflly factor), for all associated FAC(A) qualification events (per paragraph 500.1.b), constitutes loss of the FAC(A) qualification.

g. Aircrew who have lost the FAC(A) qualification due to failure to meet JFAC(A) MOA currency requirements shall regain the FAC(A) qualification by successfully completing events as delineated in the appropriate T&R syllabus under the supervision of a qualified FAC(A) (recommend a current and qualified FAC(A) or FAC(A)I). At a minimum, such aircrew must complete the number and category (appropriate night, control

type, ordnance, etc.) of controls the individual failed to accomplish during the appropriate six-month currency period (6 controls; 4 of these 6 controls must be Type 1, 2 controls must be fixed wing Type 1, 1 control must have CAS assets expend live or training ordnance, and at least 1 must be at night).

h. Aircrew who have lost the FAC(A) qualification due to exceeding the refly interval in all associated qualification events, or who have been FAC(A) unqualified for 18 consecutive months per the JFAC(A) MOA, shall regain qualification by completing the Refresher FAC(A) syllabus under the supervision of a FAC(A)I and conduct a minimum of 6 controls (4 of these 6 controls must be Type 1, 2 controls must be fixed wing Type 1, 1 control must have CAS assets expend live or training ordnance, and at least 1 must be at night).

i. The intent of the T&R refly intervals is to meet the JFAC(A) MOA minimum requirements for currency/proficiency controls:

JFAC(A) MOA Requirements				
Interval	Total Controls	Type 1	FW Type 1	Ordnance/ Night
180 days	6	4	2	1/1

k. Escort aircraft that are flown by a FAC(A)I conducting instruction during a FAC(A)/FAC(A)I workup will log the appropriate FAC(A) code and log the FAC(A) controls. F-35 FAC(A) flights should fly as a section, and the escort for an F-35 FAC(A) shall be 2000 Phase complete. Escort aircraft will not fulfill the external support requirement of a FW CAS element for any FAC(A) qualification workup sortie.

2.13.5.3 Prerequisite. Prior to beginning this stage, F-35 pilots will be either a division leader with prior ground FAC or FAC(A) experience or a mission commander.

2.13.5.4 Admin Notes. FAC(A)4513 through FAC(A)-4516 sorties are not required for initial FAC(A) qualification and are FAC(A) core plus sorties.

SFAC(A)-4601 1.5 540 B,R (N) S 2 FMS

Goal. Introduce FAC(A) FW Type 1 and 2 control procedures with PGMs/IAMs in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control two Type 1 and two Type 2 attacks by FW aircraft using level and roll-in delivery profiles. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate laser mark on target and guide one LGW to impact. Provide BHA. Six controls required for completion.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Provide laser mark using proper J-LASER terminology and successfully guides LGW to impact, if required

Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment.

Execute FAC(A) Type 1/2 control TTPs IAW JCAS using proper terminology

Prerequisite. JFAC(A) academics, SL-6314

SFAC(A)-4602 1.5 180 B,R,M (N) S 2 FMS

Goal. Introduce FAC(A) FW Type 1/3 control procedures with GP ordnance in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control three Type 1 and one Type 3 attacks by FW aircraft using low threat tactics and GP ordnance. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate marking rounds on target, with a minimum of one mark via aircraft ordnance. Demonstrate the ability to provide timely, accurate corrections for CAS aircraft and the ability to provide talk-ons. Provide BHA. Six controls required for completion.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Provide accurate verbal description during talk-on attacks

Execute FAC(A)/CAS attack profiles appropriate for threat, friendlies, systems, and environment

Execute FAC(A) Type 1/3 control TTPs IAW JCAS using proper terminology

Prerequisite. SFAC(A)-4601

FAC(A)-4603 1.5 * B (N) A 2 F-35

Goal. Introduce FAC(A) FW Type 1 and 2 control procedures with laser/PGMs in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets on a tactical range, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control two Type 1 and two Type 2 attacks by FW aircraft using level and roll-in delivery profiles. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate laser mark on target and guide one LGW to impact. Provide BHA. Four controls required for completion. If a range that permits Type 2 control is not available, Type 2 control may be evaluated with simulated JDAM/LGB deliveries.

Performance Standards

Execute appropriate Search/Detection/ID profiles

Correctly use aircraft systems for target coordinate and 9-line generation

Provide LASER mark using proper J-LASER terminology and successfully guides LGW to impact, if required

Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment

Execute FAC(A) Type 1/2 control TTPs IAW JCAS using proper terminology

Prerequisite. SFAC(A)-4602.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. One or two FW CAS elements with live, inert, or captive PGMs and a JTAC.

FAC(A)-4604 1.5 180 B,R,M (N) A 2 F-35

Goal. Introduce FAC(A) FW Type 1/3 control procedures with GP ordnance in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets on a tactical range, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control three Type 1 and one Type 3 attacks by FW aircraft using low threat tactics and GP ordnance. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate marking rounds on target, with a minimum of one mark via aircraft ordnance. Demonstrate the ability to provide timely, accurate corrections for CAS aircraft and the ability to provide talk-ons. Provide BHA. Four controls required for completion.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Provide accurate verbal description during talk-on attacks

Execute FAC(A)/CAS attack profiles appropriate for threat, friendlies, systems, and environment

Execute FAC(A) Type 1/3 control TTPs IAW JCAS using proper terminology

Prerequisite. SFAC(A)-4602

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. One or two FW CAS elements with live or inert GP ordnance and a JTAC.

FAC(A)-4605 1.5 * B (N) A 2 F-35

Goal. Introduce FAC(A) RW Type 1, 2, and 3 control procedures in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three targets on a tactical range, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control one Type 1, two Type 2, and two Type 3 attacks by attack helicopters. Use appropriate RW CAS briefing and control procedures. Perform authentication procedures. Deliver marking rounds/talk-on (rockets/guns/TOW) or provide laser designation (Hellfire). If conducted at night, use appropriate tactics for target illumination if necessary. For Type 1 (rockets/guns) controls, emphasis should be on providing corrections, ensuring compliance with limit-of-advance and providing threat lookout for RW assets in the target area. For Type 2 (TOW) controls, emphasis should be on providing a target sort and ensuring no friendlies in the SDZ. Two TOW/Hellfire controls are required for completion. One of the two controls must have the FAC(A) lasing for Hellfire employment. Simulated TOW and captive Hellfire are acceptable.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Provide accurate verbal description during talk-on attacks

Provide laser mark using proper J-LASER terminology

Execute FAC(A)/CAS attack profiles appropriate for threat, friendlies, systems, and environment

Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology

Prerequisite. SFAC(A)-4602

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. One or two RW CAS elements with live/captive Hellfire and a JTAC.

SFAC(A)-4606 1.5 * B (N) S/A 2 FMS/F-35

Goal. Introduce mortar/artillery AIRSPOT.

Requirement. Perform visual/sensor reconnaissance on three tactical targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare a call-for-fire brief. Emphasize accurate call-for-fire communications and adjustment procedures. One adjust fire (laser grid), one immediate suppression,

one SEAD mission, and one high threat SEAD mission required for completion. Emphasis on high-threat AIRSPOT is FAC(A) positioning to provide redundant mark and accurate corrections for IDF with simulated weather of overcast at 8,000 ft MSL. Both SEAD missions must include marking and suppression targets.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Employ proper communications format with the firing unit
Provide timely and accurate corrections to the firing unit
Complete an immediate suppression CFF within 60 seconds of receiving the mission from the JTAC

Prerequisite. SFAC(A)-4602.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. IDF asset (mortars or artillery) and a ground JTAC or FO. IDF asset requires a minimum of 10 HE rounds, 2 WP rounds, and 8 Illumination rds.

FAC(A)-4607 1.5 365 B,R,M (N) A 2 F-35

Goal. Introduce FAC(A) Type 1/2/3 control procedures in an urban environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets in an urban environment, generating target coordinates with aircraft systems. Plot targets on Gridded Reference Graphic (GRG) and prepare target briefs. Control two Type 1 and two Type 2/3 attacks by aircraft. Use appropriate CAS briefing and control procedures. Deliver or coordinate marks as required. Demonstrate the ability to provide timely, accurate corrections for CAS aircraft, and the ability to provide GRG-based talk-ons. Integrate fires with JTAC via data link from TPOD to remote station, if so equipped. Four controls required for completion.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate, 9-line and BHA generation

Provide accurate verbal description during GRG talk-on attacks
Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment
Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology

Prerequisite. FAC(A)-4603, FAC(A)-4605.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST
URBN WPNS		

External Syllabus Support. One or more FW or RW CAS elements, and a JTAC.

FAC(A)-4608 1.5 180 B,R,M N A 2 F-35

Goal. Introduce FAC(A) Night Systems procedures in a low (permissive) threat environment.

Requirement. Perform visual/sensor reconnaissance of three separate targets on a tactical range, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Control two Type 1 and two Type 2 attacks by FW aircraft. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate marking rounds or IR/LASER mark on target. At least one Type 1 control must use an IR pointer, if so equipped. Demonstrate the ability to provide timely, accurate corrections for CAS aircraft. Provide BHA. Four controls required for completion. If a range that permits Type 2 control is not available, Type 2 control may be evaluated with simulated JDAM/LGB deliveries.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Provides IR/laser mark using proper terminology

Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment

Execute FAC(A) Type 1/2 control TTPs IAW JCAS using proper terminology

Prerequisite. FAC(A)-4604

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. One or two FW CAS elements and a JTAC.

SFAC(A)-4609 1.5 540 B,R,M (N) S 2 FMS

Goal. Adverse weather, high-threat (restrictive) FAC(A) control procedures.

Requirement. Conduct Type 1 high-threat FAC(A) controls. Emphasize C3 integration, target area flow/integration/timing, sensor management, switchology, and crew resource management. Four Type 1 controls required for completion. SEAD CFF mission must be given for each TOT. FAC(A)I at the simulator console must simulate C3 agencies, TACP, indirect fire assets, and CAS aircraft. Simulated weather is overcast at 8K'.

Performance Standards

Correctly use aircraft systems for target coordinate and 9-line generation
 Ensure proper coordination and approval for IDF and CAS attacks
 Employ proper communications format with the firing unit
 Position FAC(A) aircraft appropriately to provide marking and control while executing FAC(A) profiles appropriate for threat, friendly locations, systems, and environment
 Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology

Prerequisite. FAC(A)-4603-4607 complete.

SFAC(A)-4610 1.5 180 B,R,M N S 2 FMS

Goal. Practice FAC(A) multi-element and supporting arms integration in the simulator.

Requirement. Perform visual/sensor reconnaissance, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Plan and execute at least one integrated attack utilizing three or more elements. For FW/RW/UAS integration, emphasis is on conducting a sectorized or combined (simultaneous or sequential) attack. For CAS/IDF integration, time, altitude, or lateral deconfliction can be used.

Performance Standards

Execute appropriate search, detection, and identification profiles
 Correctly use aircraft systems for target coordinate and 9-line generation
 Ensure proper coordination and approval for IDF and CAS attacks
 Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment
 Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology.

Prerequisite. FAC(A)-4603, FAC(A)-4608, SFAC(A)-4609.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

FAC(A)-4611 1.5 * B (N) A 2 F-35

Goal. Practice FAC(A) multi-element and supporting arms integration.

Requirement. Perform visual/sensor reconnaissance, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Plan and execute at least one integrated attack utilizing two or more elements. For FW/RW/UAS integration, emphasis is on conducting a sectored or combined (simultaneous or sequential attack). For CAS/IDF integration, time, altitude, or lateral deconfliction can be used. This evaluation sortie should be flown in a MAGTF-level exercise if possible.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Ensure proper coordination and approval for IDF and CAS attacks
Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment

Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology.

Prerequisite. FAC(A)-4604, SFAC(A)-4610.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP, EW
JCAS		SST

External Syllabus Support. Minimum of two fire support assets (FW CAS/RW CAS/UAS CAS/IDF) and a JTAC. IDF asset requires 10 HE rds, 4 WP rds.

FAC(A)-4612 1.5 365 B,R,M N A 2 F-35

Goal. Practice FAC(A) multi-element and supporting arms integration.

Requirement. Perform visual/sensor reconnaissance, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Plan and execute at least one integrated attack utilizing three or more elements. For FW/RW/UAS integration, emphasis is on conducting a sectored or combined (simultaneous or sequential attack). For CAS/IDF integration, time, altitude, or lateral deconfliction can be used. This evaluation sortie should be flown in a MAGTF-level exercise if possible.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation

Ensure proper coordination and approval for IDF and CAS attacks
Execute FAC(A)/CAS attack profiles appropriate for threat, friendly

locations, systems, and environment
Execute FAC(A) Type 1/2/3 control TTPs IAW JCAS using proper terminology

Prerequisite. FAC(A)-4611

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP, EW
JCAS		SST

External Syllabus Support. Minimum of three fire support assets (FW CAS/RW CAS/UAS CAS/IDF) and a JTAC. IDF asset requires 10 HE rds, 4 WP rds.

FAC(A)-4613 1.5 * B (N) A 2 F-35

Goal. Introduce UAS/UCAV integration.

Requirement. Perform visual/sensor reconnaissance on three tactical targets, generating target coordinates with aircraft systems. Receive one laser spot/target handoff from a UAS/UCAV. Plot targets on gridded imagery/chart and prepare an attack brief. Control two Type 2 and two Type 3 attacks by UAS/UCAV aircraft. Use appropriate CAS briefing and control procedures. Perform authentication procedures. Deliver or coordinate LASER mark on target and guide one LGW to impact. Provide BHA and coordinate with UAS/UCAV to provide BHA. Four controls required for completion. If a range that permits Type 2 Control is not available, Type 2 Control may be evaluated with simulated LGW deliveries.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and 9-line generation
Provides laser mark using proper J-LASER terminology
Execute FAC(A)/CAS attack profiles appropriate for threat, friendly locations, systems, and environment
Execute FAC(A) Type 2/3 Control TTPs IAW JCAS using proper terminology

Prerequisite. FAC(A)-4612

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
HI FI EW	EW	
JCAS		SST

External Syllabus Support. UAS/UCAV asset with LGWs and a JTAC or FO.

FAC(A)-4614 1.5 * B (N) A 2 F-35

Goal. Introduce Naval Surface Fire Support (NSFS) AIRSPOT TTPs.

Requirement. Perform visual/sensor reconnaissance on three tactical targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare a call-for-fire brief. Emphasize accurate call-for-fire communications and adjustment procedures. One adjust fire (laser if feasible) and two mark or SEAD missions.

Performance Standards

Execute appropriate search, detection, and identification profiles
Employ proper communications format with the firing unit
Provide timely and accurate corrections to the firing unit
Require four rounds or less to achieve a bracket sufficient for a fire for effect

Prerequisite. FAC(A)-4612

Ordinance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JCAS		SST

External Syllabus Support. Naval Surface Fire Support asset and a JTAC, FO, or NGLO. NSFS asset requires a minimum of 10 HE rounds, 2 WP rounds, and 8 Illumination rounds.

FAC(A)-4615 1.5 * B (N) A 2 F-35

Goal. Introduce FAC(A) AC-130 Call For Fire procedures.

Requirement. Perform visual/sensor reconnaissance on three tactical targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare a call-for-fire brief. Emphasize accurate call-for-fire communications and adjustment procedures. Three missions required for completion.

Performance Standards

Execute appropriate search, detection, and identification profiles
Correctly use aircraft systems for target coordinate and call-for-fire brief generation
Provide accurate verbal description during talk-on attacks

If required, mark the target with a CEP less than 300 meters
Employ proper communication format with the AC-130

Prerequisite. FAC(A)-4612

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
<i>RSTD</i>		<i>EXP</i>
<i>JCAS</i>		<i>SST</i>

External Syllabus Support. One AC-130 and a JTAC.

2.13.6 TACTICAL AIR COORDINATOR (AIRBORNE) TAC(A)

2.13.6.1 Purpose. To develop proficiency in TAC(A).

2.13.6.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.13.6.3 Prerequisite. FAC(A) qualified.

2.13.6.4 Admin Notes. Prior to commencing the TAC(A) syllabus, aircrew must be FAC(A) qualified. Non-qualified aircrew will fly TAC(A)-4701 with a FAC(A) I.

TAC(A)-4701 1.5 545 B,R,M (N) A 1+ F-35

Goal. Practice TAC(A) procedures with multiple terminal controllers.

Requirement. Perform coordination of attack aircraft and multiple terminal controllers. Receive attack briefings from the JTAC/FAC(A) and assign appropriate CAS aircraft. Coordinate target mark and control with the JTAC/FAC(A). Manage assigned airspace and provide command and control system with essential elements of information. Perform authentication procedures (as required).

Performance Standards

Accurately copy immediate JTAR
Coordinate timely CAS in response to immediate request
Pass CAS aircraft BHA via the C3 system

Prerequisite. FAC(A)-4612.

Range. MOA

External Syllabus Support. JTAC/FAC(A) and two or more CAS elements.

2.14 INSTRUCTOR / STANDARDIZATION TRAINING PHASE (5000)

2.14.1 Purpose. To certify a F-35 pilot as an instructor capable of safely conducting ground and airborne instruction of the specific syllabus events.

2.14.2 General. Training shall be conducted in accordance with the F-35 course catalog.

2.14.2.1 Prerequisite. PUI must be a division lead and nominated by the Commanding Officer.

2.14.2.2 Stages. The following stages are included in the Instructor Phase of training.

Par No.	Stage Name
2.14.3	Instructor Pilot Upgrade (IP)
2.14.4	Forward Air Controller (Airborne) Instructor (FAC(A) I)
2.14.5	Flight Lead Standardization Evaluator (FLSE)

2.14.3 INSTRUCTOR PILOT UPGRADE (IP) STAGE

2.14.3.1 Purpose. To certify pilots as Instructor Pilots. Instructor Pilots can fly initial 2000 Phase events with PUI in the Basic and Refresher syllabi as well as evaluate flight leadership events.

2.14.3.2 General. A MAWTS-1 shall conduct all four events.

2.14.3.3 Prerequisite. Division leader with nomination from the Commanding Officer.

2.14.3.4 Admin Notes. Additional guidance can be found in the MAWTS-1 F-35 Course Catalog.

IP-5101 1.5 * B D E A 2 F-35

Goal. Certify that PUI can instruct all aspects of Basic Air to Surface.

Requirements. PUI must brief and lead an instructional AS sortie and perform at least (1) LGB attack and (1) JDAM attack on a dispersed target set and (3) Strafe attacks on a scored strafe target. Conduct an instructor level debrief with tape review.

Performance Standards. Per Course Catalog.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-23	220	PGU-32	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
JDAM		
LGB		
STRAFE		
TGT-DISP	TGT	

IP-5102 1.5 * B D E A 2 F-35

Goal. Certify that PUI can instruct all aspects of Basic Fighter Maneuvering.

Requirements. PUI must brief and lead an instructional BFM sortie. BFM sets will be assigned by instructor. Conduct an instructional whiteboard and tape debrief.

Performance Standards. Per Course Catalog

Prerequisite. IP-5101

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
ACM	AA	
EXP		

IP-5103 1.5 * B N E S 2 FMS

Goal. Certify that PUI can instruct all aspects of Close Air Support and night operations.

Requirements. PUI must brief and lead an instructional night CAS sortie. PUI must perform attacks under each type of control and must conduct reactive SEAD. Conduct an instructional whiteboard and tape debrief.

Prerequisite. IP-5102

Performance Standards. Per Course Catalog

IP-5104 1.5 * B N E S 4 FMS

Goal. Certify that PUI can instruct all aspects night Aerial Interdiction.

Requirements. PUI must brief and lead an instructional AI sortie in an advanced threat environment. Specific environment will be assigned by instructor. Conduct an instructional whiteboard and tape debrief.

Prerequisite. IP-5103

Performance Standards. Per Course Catalog

2.14.4 FORWARD AIR CONTROLLER (AIRBORNE) INSTRUCTOR (FAC(A)I) STAGE

2.14.4.1 Purpose. To certify F-35 pilots as a FAC(A)I; capable of conducting ground and airborne instruction of the FAC(A) mission and capable of safely controlling CAS in close proximity to friendly troops. Emphasize demonstration of ability to coordinate simultaneous FW and RW CAS, artillery, or NSFS, while working for a TACP and operating with a MACCS.

2.14.4.2 Prerequisite. FAC(A) with nomination from the commanding officer.

2.14.4.3 Admin Notes. Additional guidance can be found in the F-35 Course Catalog.

SFAC(A) I-5201	1.5	*		B	(N)	E	S	4 FMS
FAC(A) I-5202	1.5	*		B	(N)	E	A	2 F-35
FAC(A) I-5203	1.5	*		B,R	(N)	E	A	2 F-35

2.14.5 FLIGHT LEAD STANDARDIZATION EVALUATOR (FLSE) STAGE

2.14.5.1 Purpose. To certify F-35 pilots capable of safely and tactically evaluating specific F-35 events throughout all flight leadership syllabi. Aircrew must be designated by the MAG CO. Once designated a FLSE, aircrew shall evaluate FLSE events only in squadrons other than the one assigned. FLSE's shall also conduct NATOPS/Inst check simulators.

2.14.5.2 Prerequisite. Prior to beginning the FLSE-5301, aircrew shall be designated an instructor pilot and must be nominated by the squadron Commanding Officer.

2.14.5.3 Admin Notes. Additional guidance can be found in the F-35 Course Catalog.

AFLSE-5301	1.0	*	B,R			E		
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Goal. Certify that PUI is standardized in current tactical and administrative flight leadership.

Requirements. Complete a written exam, administered by MATSS, that encompasses standardization, tactics and local procedures.

Performance Standards. 80% passing score.

SFLSE-5302	1.5	*	B,R	(N)	E	S	1 FMS
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Goal. Certify that PUI can administer NATOPS check rides.

Requirements. Conduct an oral exam reviewing NATOPS procedures. Conduct a local sortie in accordance with MAG NATOPS evaluator requirements.

Performance Standards. Per Course Catalog

Prerequisites. FE-5301

SFLSE-5303	1.5	*	B,R	(N)	E	S	1 FMS
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Goal. Certify that PUI can administer instrument checkrides.

Requirements. Conduct an oral exam reviewing instrument procedures. Conduct a local sortie in accordance with MAG Instrument evaluator requirements.

Performance Standards. Per Course Catalog.

Prerequisites. FE-5301

2.15 REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE (6000)

2.15.1 Purpose. To track proficiency, qualification events and designation events.

2.15.1.1 Prerequisite. Per stage and course catalog.

2.15.1.2 Stages. The following stages are included in the Requirements, **Qualifications**, and Designation Phase of training.

Par No.	Stage Name
2.15.3	Required Training and/or proficiency events (RQD)
2.15.4	Qualification events (QUAL)
2.15.5	Designation Events: Section Leader (SL)
2.15.6	Designation Events: Division Leader (DL)
2.15.7	Designation Events: Mission Commander (MC)
2.15.8	Designation Events: Weapons School Graduate Instructor (INST)
2.15.9	Specific Weapons Delivery Proficiency Requirements [Surface (SSWD); Aerial (ASWD)]

2.15.3 REQUIRED TRAINING AND/OR PROFICIENCY EVENTS (RQD) STAGE

2.15.3.1 Purpose. To track training codes associated with required evaluations and flight leadership proficiency.

2.15.3.2 Admin Notes. Flight leadership proficiency tracking codes (RQD-6103-6105) shall be logged in conjunction with the appropriate 2000-5000 Phase event training code every time an aircrew flies an event as a designated section leader, division leader, or mission commander.

2.15.4 F-35 NATOPS Evaluation

2.15.4.1 Purpose. To evaluate the aircrew's knowledge of aircraft systems, performance limitations, emergency procedures, and ground/flight operations.

2.15.4.2 General

a. NATOPS Evaluators/Instructors shall conduct the NATOPS evaluation in accordance with OPNAVINST 3710.7 Series and other applicable directives, instructions, and orders.

b. The NATOPS Evaluator shall utilize the NATOPS Model Manager generated NATOPS Aviation Training Form (ATF) and the evaluation metrics required for the accomplishment and performance of the standardized criterion to determine whether the aircrew completed the sortie. Prior to the Oral Examination, the NATOPS Evaluator shall review the aircrew's NATOPS jacket. At the discretion of the squadron commanding officer, a letter designating the pilot as NATOPS qualified shall be placed in the NATOPS jacket and APR.

c. Prior to the commencement of the NATOPS evaluation event (NTPS-6101), the NATOPS Open Book, Closed Book, and Oral Examination events (NTPS-6801, 6802, and 6803) shall be completed and graded.

2.15.3.4 NATOPS Training. All requirements delineated in the matrix below shall be completed prior to designation as NATOPS qualified.

SELF PACED READINGS		DATE COMP
USMC F-35 ADMIN SOP		
F-35 NATOPS Flight Manual		
OPNAVINST 3710		
REQUIRED Evaluation Events	DATE COMP/GRADED	INSTRUCTOR
F-35 Open Book Examination		
F-35 Closed Book Examination		
F-35 Oral Examination		
F-35 Evaluation (Simulator/ Aircraft)		

NTPS-6801 1.5 365 B,R,M Open Book NATOPS Examination

Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination portion of the written examination is to evaluate the aircrew's knowledge of the appropriate publications and the aircraft.

Performance Standard. Achieve a minimum grade of qualified on the open book examination.

NTPS-6802 1.0 365 B,R,M Closed Book NATOPS Examination

Goal. The closed book examination shall be limited to the question bank. The purpose of the open book examination portion of the written examination is to evaluate the aircrew's knowledge of the concerning normal/emergency procedures and aircraft limitations.

Performance Standard. Achieve a minimum grade of qualified on the closed book examination.

NTPS-6803 0.5 365 B,R,M Oral NATOPS Examination

Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor/evaluator may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the aircrew's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral examination.

SNTPS-6101 1.0 365 B,R,M (N) E 1+ FMS/F-35 S/A

Goal. Conduct an objective evaluation of the aircrew's knowledge of normal operating procedures (flight and ground), crew resource management, out-of-control flight, aircraft systems, performance criteria, and emergency procedures. The focus is on normal and emergency procedures, not tactical execution. Emphasis shall be placed on the aforementioned items with the addition of USMC Admin SOP, local course rules, local SOP addendum, and admin flight procedures. The NATOPS evaluation is intended to evaluate compliance with NATOPS procedures. The NATOPS evaluation is the means to measure the aircrew's efficiency in the execution of normal operating procedures and reaction to emergencies and malfunctions. The NATOPS evaluation process should be as much a learning tool and/or experience as it is an evaluation.

Requirement. Demonstrate comprehensive knowledge and understanding of NATOPS, USMC F-35 ADMIN SOP, and local course rules.

Performance Standard

Executes flight and/or ground operations safely IAW OPNAV 3710, F-35 NATOPS, NATOPS Instrument Flight Manual, and training rules
Complies with local course rules
Adheres to USMC F-35 ADMIN SOP.

Prerequisite. Successful completion of the open book, closed book, and oral examinations.

2.15.3.5 F-35 Instrument Evaluation

2.15.3.6 Purpose. To evaluate the pilot's knowledge of and adherence to NATOPS instrument procedures.

2.15.3.7 General

a. The NATOPS instrument evaluation event shall consist of those items delineated in OPNAVINST 3710.7 series (NATOPS), NAVAIR 00-80T-112 (NATOPS Instrument Flight Manual) and FAR/AIM.

b. The NATOPS instrument evaluator shall utilize the NATOPS model manager-generated NATOPS instrument Aviation Training Form (ATF) and the evaluation metrics required for the accomplishment and performance of the standardized criterion to determine whether the aviator completed the sortie. A letter designating the pilot as NATOPS instrument qualified shall be placed in the NATOPS jacket upon successful completion.

c. Prior to the commencement of the NATOPS instrument evaluation event (INST-6102), Instrument Ground School and the Instrument Examination (NTPS-6804 and 6805) shall be completed and graded, and annual instrument minimums shall be met in accordance with OPNAVINST 3710.7 series.

d. A designated F-35 instrument check pilot will observe and certify that the PUI is instrument qualified per OPNAVINST 3710.7 series.

2.15.3.8 NATOPS Instrument Training. All requirements delineated in the matrix below shall be completed prior to designation as NATOPS Instrument qualified.

ACADEMIC TRAINING		DATE COMP
Instrument Ground School		
REQUIRED Evaluation Events	DATE COMP/GRADED	INSTRUCTOR
F-35 Instrument Examination (during Instrument Ground School)		
F-35 Instrument Evaluation (Simulator/Aircraft)		

INST-6804 1.0 365 B,R,M E Instrument Ground School Examination

Goal. The instrument ground school examination shall be administered as a part of instrument ground school. The examination shall include questions on the following subjects:

a. Pertinent Navy or Marine Corps regulations, orders, and instructions.

b. Pertinent parts of the Federal Aviation Regulations (FAR), other regulations, and/or aeronautical publications which are applicable.

c. Interpretation of weather information normally used in flight planning.

Performance Standard. Achieve a minimum grade of qualified on the IGS examination.

INST-6805 4.0 365 B,R,M E Instrument Ground School

Goal. The instrument ground school shall be an approved Commander Naval Air Forces (CNAF) approved syllabus.

Performance Standards. Achieve a minimum grade required for the IGS examination.

SINST-6102 1.0 365 B,R,M (N) E S/A 1 FMS/F-35

Goal. Following completion of the ground evaluation events, an instrument flight/simulator evaluation event shall be flown and completed with a grade of "Qualified." Conduct an objective evaluation of the aircrew's knowledge of flight planning, filing, briefing, conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

Requirement. Upon successful completion of these events, the evaluator shall log the appropriate training code for tracking purposes.

Performance Standards. Executes flight and/or ground operations safely IAW OPNAV 3710, F-35 NATOPS, NATOPS Instrument Flight Manual, and training rules.

Prerequisite. Successful completion of the NATOPS evaluation, IGS, and the IGS examination.

2.15.3.9 Required Events (RQD)

RQD-6103 1.5 90 B,R,M (N) A 2 F-35

Goal. Track section leader proficiency.

Requirement. To maintain proficiency as a section leader a pilot shall brief, lead, and debrief the designated event in accordance with the mission performance standards for that event.

Prerequisite. Designated section leader.

RQD-6104 1.5 180 B,R,M (N) A 4 F-35

Goal. Track division leader proficiency.

Requirement. To maintain proficiency as a division leader a pilot shall brief, lead, and debrief the designated event in accordance with the mission performance standards for that event.

Prerequisite. Designated division leader.

RQD-6105 1.5 365 B,R,M (N) A 6+ F-35

Goal. Track mission commander proficiency.

Requirement. To maintain proficiency as a mission commander aircrew shall brief, lead, and debrief the designated event in accordance with the mission performance standards for that event.

Prerequisite. Designated mission commander.

RQD-6106 1.5 545 B,R,M (N) A 1 F-35

Goal. Track proficiency in day or night strategic aerial refueling.

Requirement. Two day contacts or two night contacts required for completion.

External Syllabus Support. KC-135, KC-10 tanker or similar.

RQD-6107 1.5 1095 B,R,M D S 1 FMS

Goal. Introduce and demonstrate techniques and procedures associated with the Functional Check Flight (FCF).

Requirement. Simulator shall be used under the supervision of a designated FCF pilot. All portions of the FCF checklist shall be reviewed during the simulator period.

2.15.4 Qualification Events (QUAL)

2.15.4.1 Purpose. To track training codes associated with qualifications.

2.15.4.2 General. Once the flight to attain the qualification is complete, a letter from the squadron commanding officer awarding the qualification shall be placed in the NATOPS jacket and APR.

2.15.4.3 Ground/Academic Training. Refer to the MAWTS-1 F-35 Course Catalog.

QUAL-6201 1.5 * B,R,M D A 1+ F-35

Goal. Tracking code for day Forward Operating Base (FOB).

Requirement. Completion of FOB-4102 meets the requirements for the PUI to be day FOB. At the discretion of the squadron

commanding officer a letter assigning the PUI as day FOB shall be placed in the NATOPS jacket.

Prerequisite. FOB-4102.

QUAL-6202 1.5 * B,R,M N A 1 F-35

Goal. Tracking code for night FOB.

Requirement. Completion of night FOB IAW current Naval Instructions meet the requirements for the PUI to be night FOB. At the discretion of the squadron commanding officer a letter

assigning the PUI as night FOB shall be placed in the NATOPS jacket.

Prerequisite. FOB-4103.

QUAL-6203 1.5 * B,R,M D A 1 F-35

Goal. Tracking code for day Carrier Qualification (CQ).

Requirement. Completion of CQ-4204 meets the requirements for the PUI to be day CQ. At the discretion of the squadron

commanding officer a letter assigning the PUI as day CQ shall be placed in the NATOPS jacket.

Prerequisite. CQ-4204.

QUAL-6204 1.5 * B,R,M N A 1 F-35

Goal. Tracking code for Night Carrier Qualification (CQ).

Requirement. Completion of night CQ IAW current Naval Instructions meet the requirements for the PUI to be night CQ. At the discretion of the squadron commanding officer a letter assigning the PUI as night CQ shall be placed in the NATOPS jacket.

Prerequisite. CQ-4205.

QUAL-6205 1.5 1095 B,R,M LSO Qual

Prerequisite. QUAL-6203, QUAL-6204, LSO required training.

QUAL-6206 1.5 * B,R,M D E A 1 F-35

Goal. Demonstrate proficiency in the execution of FCF checklist.

Requirement. At the discretion of the squadron commander, will be flown in a known "up" aircraft. Completion of the FCF checklist.

Performance Standards. Completion of the applicable FCF checklist.

Prerequisite. RQD-6107.

QUAL-6207 1.5 * B,R,M (N) A 2 F-35

Goal. Tracking code for FAC(A) qualification.

Requirement. Completion of FAC(A)-4812 meets the requirements for the aircrew to be FAC(A) qualified. At the discretion of the squadron commanding officer a letter assigning the aircrew as FAC(A) qualified shall be placed in the NATOPS jacket.

Prerequisite. FAC(A)-4812

QUAL-6208 1.5 * B,R,M (N) A 2 F-35

Goal. Tracking code for TAC(A) qualification.

Requirement. Completion of TAC(A)-4701 meets the requirements for the aircrew to be TAC(A) qualified. At the discretion of the squadron commanding officer a letter assigning the aircrew as TAC(A) qualified shall be placed in the NATOPS jacket.

Prerequisite. TAC(A)-4701.

2.15.5 DESIGNATION EVENTS: SECTION LEADER (SL) STAGE

2.15.5.1 Purpose. To prepare and evaluate the Prospective Section Leader's (PSL) ability to plan, brief, lead, and debrief a mission-oriented event as a section leader. This syllabus is intended for PSL who haven't held a section leader designation in any other TMS. For pilots transitioning from another TMS, it is the CO's discretion to how much of the syllabus is performed based on experience level and background.

2.15.5.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.15.5.3 Prerequisite. Prospective section leaders should have a minimum of 200 hours in model, 400 hours total, and be complete with all 2000 and 3000 phase events prior to commencing the section lead syllabus.

2.15.5.4 Admin Notes

a. To the greatest extent possible, PSLs should conduct the following syllabus numbers in order. All SL events shall be evaluated by a designated division leader. Specified SL events (labeled FLSE) shall be evaluated by a standardized, MAG CO designated, FLSE assigned by the MATSS OIC. SL FLSE events shall not be evaluated by an internal squadron FLSE.

b. The SL evaluator will use the sortie requirement accomplishment criteria (mission performance standards) to determine whether the PSL completed the sortie. The PSL will use the performance standards to debrief the flight. All simulator events will include full mission briefs (excluding admin) scheduled for at least of period of 1 hour prior to the simulator time.

c. Completion of the SL syllabus meets the requirements for designation as section leader. At the discretion of the squadron commanding officer, a letter designating the pilot as a section leader shall be placed in the NATOPS jacket and APR. Re-designation for aircrew that do not require Core Skill introduction Refresher training is at the discretion of the commanding officer.

d. Administrative flight requirements are to be performed during the flights or simulators. They shall be completed prior to the SL-6313.

ADMINISTRATIVE FLIGHT REQ.	FLIGHT
LEAD OVERHEAD BREAK	
LEAD SECTION PAR	
LEAD SIM NORDO APPROACH	
LEAD STRAIGHT IN, FLIGHT LEAD SEP	
LEAD OVERHEAD BREAK, N	
LEAD PAR, N	
LEAD ILS	
LEAD STRAIGHT IN, FLIGHT LEAD SEP, N	
SECTION LANDING	
INTERVAL TAKEOFF	
SECTION TAKEOFF	
CONDUCT TCTS DEBRIEF	
FLY AS DASH THREE IN A DIVISION	

SSL-6301 1.5 * B D E S 2 FMS

Goal. Conduct a day PGM/strafe training sortie. Target audience is 2000 Phase complete. Emphasis should be placed on ground operation, local departure / recovery procedures, tanking procedures, tactical conduct, and emergency procedures.

Requirement. As a linked FMS section, conduct ground admin / TACADMIN procedures IAW F-35 NTTP 3.22.3. Depart home station IAW local procedures and proceed to a local training range to conduct in-flight refueling. Following departure from the tanker, conduct PGM and strafe deliveries. Return to home station as a section IAW local procedures. One emergency procedure will be injected by evaluator to reinforce section flight leadership.

Performance Standards

Brief admin / TACADMIN and mission IAW local procedures / ANTPP
Execute AAR IAW ATP-56B
Execute valid deliveries IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. Complete ground/academic training. ACPM 8640, JOINT DATA NETWORK. ACPM 8620, ESG/CSG INTEGRATION, ACPM 8660, JOINT OPS INTRO.

SL-6302 1.5 * B D E A 2 F-35

Goal. Conduct day sensor integration and handoff to precision guided weapons. Conduct day medium angle strafe. Target audience is 2000 Phase complete.

Requirement. Conduct a minimum of 4 sensor aided deliveries and 4 strafe runs against an SB or ATS.

Performance Standards

Adhere to briefed AS timeline
Proper use of sensors to designate, attack, and support PGMs
Proper use of sensors to designate and attack with GAU-22/A
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SSL-6301

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP
LGB	JDAM	
STRAFE		
TGT-DISP	TGT	

SSL-6303 1.5 * B D E S 2 FMS

Goal. Practice the SSD and basics of offensive BFM. Emphasize concepts / definitions, energy management, LARs, mechanics based on site pictures, and weapons employment. Target audience is 2000 Phase complete.

Requirement. One SSD and three offensive perch set-ups executed from an offensive start. The offensive starts will be from 3K', 6K', 9K' separation between aircraft.

Performance Standards

Provide effective flight leadership and direction
Execute safely IAW OPNAV 3710 and training rules
Maneuver aircraft IAW brief
Accurately recall and reconstruct using whiteboard / models. Draw valid learning points

Prerequisites. SSL-6301

SSL-6304 1.5 * B D E S 2 FMS

Goal. Practice the SSD and basics of defensive BFM. Emphasize concepts / definitions, energy management, LARs, mechanics based on site pictures, and weapons employment. Target audience is 2000 Phase complete.

Requirement. One SSD, three defensive perch set-ups, and 1 guns defense executed from an defensive start. The defensive starts will be from 3K', 6K', 9K' separation between aircraft.

Performance Standards

Provide effective flight leadership and direction
Execute safely IAW OPNAV 3710 and training rules
Maneuver aircraft IAW brief
Accurately recall and reconstruct using whiteboard / models
Draw valid learning points

Prerequisites. SSL-6302

SL-6305 1.5 * B D FLSE A 2 F-35

Goal. Demonstrate understanding and proficiency of all BFM skills. Target audience is 2000 Phase complete.

Requirement. Plan, brief, lead, and debrief a BFM sortie. Two sets from a neutral start are required for completion.

Performance Standards

Provide effective flight leadership and direction
Execute safely IAW OPNAV 3710 and training rules
Maneuver aircraft IAW brief
Accurately recall and reconstruct using whiteboard / models
Draw valid learning points

Prerequisites. SSL-6304

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	
EXP		

SSL-6306 1.5 * B (N) E S 2 FMS

Goal. Conduct CAS in a high threat environment.

Requirement. Execute 3 attacks under Type 1/2/3 terminal attack control with prohibitive interference. Execute reactive suppression of enemy air defenses to permit CAS operations. Emphasize systems and sensor management, target PID, target coordinate generation, section

target area tactics, threat counter-tactics and standardized communications.

Performance Standards

Execute CAS IAW JCAS and F-35 NTTP 3.22.3
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
TOT +/- 15 seconds
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SL-6302.

SSL-6307 1.5 * B N E S 2 FMS

Goal. Conduct night urban CAS under Type 1/2/3 terminal attack control.

Requirement. Execute 3 attacks under Type 1/2/3 terminal attack control in the urban environment. Emphasize JTAC integration, systems and sensor management, urban target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications.

Performance Standards

Execute CAS IAW JCAS and F-35 NTTP 3.22.3
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
TOT +/- 15 seconds.
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SSL-6302.

SL-6308 1.5 * B N FLSE A 2 F-35

Goal. Conduct night CAS under terminal attack control. Target audience is 2000 Phase complete.

Requirement. Execute 3 attacks under terminal attack control. Emphasize JTAC integration, systems and sensor management, target PID, target coordinate generation, section target area tactics, threat counter-tactics and standardized communications. Prohibitive interference from a tactical emitter is desired.

Performance Standards

Execute CAS IAW JCAS and F-35 NTTP 3.22.3
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
TOT +/- 15 seconds
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SSL-6307

Ordinance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	Any PGM
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
JCAS		EXP,EW
LGB	JDAM	
STRAFE		
TGT-DISP	TGT	

SL-6309 1.5 * B N E A 2 F-35

Goal. Conduct night armed reconnaissance. Target audience is 2000 Phase complete.

Requirement. Brief ROE and a target priority list. Detect, recognize, and PID targets with all aircraft systems and sensors. Execute reactive SEAD during AR operations. Execute a minimum of 3 attacks with PGMs. Communicate MISREP to simulated MACCS.

Performance Standards

Execute sensor search and reconnaissance procedures IAW F-35 NTTP 3.22.3

Engage targets IAW briefed TPL and ROE

Execute briefed AS timeline

Execute briefed SEAD/DEAD mechanics IAW F-35 NTTP 3.22.3

Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SL-6302

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
GBU-12	2	GBU-32	
PGU-32	220	PGU-23	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD		EXP,EW
LGB	JDAM	
STRAFE		
TGT-DISP	TGT	

SSL-6310 1.5 * B (N) FLSE S 2 FMS

Goal. Practice section A/A intercepts against different categories of threats (AR-1/2, SAR-2) where PHID criteria may need to be satisfied by fighters. Target audience is 2000 Phase complete.

Requirement. With a minimum of 60 NM separation the fighter and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ AEA, and maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Use proper communications throughout all phases of the intercept

Accurately ID

Take valid shots

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		

External Syllabus Support. 1 x dissimilar adversary.

SSL-6313 1.5 * B D FLSE S 2 FMS

Goal. Conduct a day AI mission, delivering IAMs, against a target that is protected by an IADS employing tactical SAMs and an unknown number adversaries (AR-1/2, SAR1/2, IR-3) that employ AEA. Target audience is 3000 Phase complete.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponeer a specific target that is obscured by weather.

Performance Standards

Destroy target IAW weaponearing requirements
Target S/A and A/A threats according to lethality
Maintain mutual support
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisites. SL-6310

SL-6314 1.5 * B,R N E A 2 F-35

Goal. Conduct a night AI mission, delivering LGWs, against a target that is protected by an IADS employing tactical SAMs and an unknown number adversaries (AR-1/2, SAR1/2, IR-3). Target audience is 3000 Phase complete.

Requirement. Attack a surface target. Mission plan ingress, ordnance delivery, signature management, egress, and threat reaction plan consistent with threat. Weaponeer a specific target.

Performance Standards

Destroy target IAW weaponearing requirements
Target S/A and A/A threats according to lethality
Maintain mutual support
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
Execute valid deliveries IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisites. SL-6313.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
GBU-12	1	GBU-32	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD, ACM	AA	EXP, MACH 1+
TACTS		
ICM	HI FI EW, EW	
COMPLEX		
LGB	JDAM	

External Syllabus Support. 3+ dissimilar adversary with AEA.

2.15.6 DESIGNATION EVENTS: DIVISION LEADER (DL) STAGE

2.15.6.1 Purpose. To prepare and evaluate the Prospective Division Leader's (PDL) ability to plan, brief, execute and lead a mission-oriented event as a Division Leader. This syllabus is intended for PDL who haven't held a section leader designation in any other TMS. For pilots transitioning from another TMS, it is the CO's discretion to how much of the syllabus is performed based on experience level and background.

2.15.6.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.15.6.3 Prerequisite. Prospective division leaders should have a minimum of 400 hours in model, 600 hours total.

2.15.6.4 Admin Notes

a. To the greatest extent possible, PDLs should conduct the following syllabus sorties in order. All DL events shall be evaluated by a designated Mission Commander. Two specific DL events (labeled FLSE) shall be evaluated by a standardized, MAG CO designated, FLSE assigned by the MATSS OIC from outside the squadron.

b. The evaluator will use the sortie requirement accomplishment criterion (mission performance standards) to determine whether the PDL completed the sortie. The PDL will use the performance standards to debrief the flight. All simulator events will include full mission briefs (excluding admin when applicable) scheduled for at least a period of 1 hour prior to the simulator time.

c. Completion of the DL syllabus meets the requirements for designation as Division Leader. At the discretion of the squadron commanding officer, a letter designating the pilot as division leader shall be placed in the NATOPS jacket and APR. Re-designation for aircrew that do not require Core Skill Introduction Refresher training is at the discretion of the commanding officer.

d. Administrative flight requirements are to be performed during the flights or simulators. They shall be completed prior to the DL-6407.

ADMIN FLIGHT LEADERSHIP REQ.	FLIGHT
LEAD DIVISION RADAR TRAIL DEPARTURE	
LEAD OVERHEAD BREAK	
LEAD SIM NORDO APPROACH	
LEAD STRAIGHT IN FLIGHT LEAD SEP	
LEAD OVERHEAD BREAK - N	
LEAD STRAIGHT IN FLIGHT LEAD SEP - N	

SDL-6401 1.5 * B D E S 4 FMS

Goal. Conduct a day PGM/strafe training sortie. Target audience is 2000 Phase complete. Emphasis should be placed on ground operations, local departure / recovery procedures, tanking procedures, tactical conduct, and emergency procedures.

Requirement. As a 4 linked FMS conduct ground admin / tacadmin procedures IAW F-35 NTTP 3.22.3. Depart home station IAW local procedures and proceed to a local training range to conduct in flight refueling. Following departure from the tanker, conduct PGM and strafe deliveries on a SB / ATS. Return to home station as a division IAW local procedures. One emergency procedure will be injected by evaluator to reinforce division flight leadership.

Performance Standards

Brief admin / TACADMIN and mission IAW local procedures / ANTPP
Execute AAR IAW ATP-56B
Execute valid deliveries IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. Complete ground/academic training.

DL-6402 1.5 * B D E A 4 F-35

Goal. Conduct a day point defense mission against an unknown number of adversaries (AR-1/2, SAR1/2, IR-3) and cruise missiles. Target audience is 3000 Phase complete. Emphasis should be placed on FEZ management, phases of the intercept, and division AAW employment IAW F-35 NTTP 3.22.3.

Requirement. One defined vulnerability period required for completion. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA.

Performance Standards

Demonstrate effective FEZ management.
Execute proper sensor mechanics.
Target IAW mission objectives.
Maintain timeline awareness.
Take valid shots.

Prerequisites. DL-6401

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		

External Syllabus Support. 4+ dissimilar adversary with AEA.

SDL-6403 1.5 * B N FLSE S 4 FMS

Goal. Conduct a SEAD/DEAD mission against a robust IADs. Emphasis should be on division coordination and division weapon systems integration to locate and destroy threats based on lethality. Target audience is 3000 Phase complete. To the greatest extent possible, these events should include an S-2 intelligence scenario, brief, and debrief.

Requirements. Execute electronic warfare in a SEAD/DEAD role against stationary and mobile SAM systems. Conduct IADS nodal analysis and EW targeting based on given scenario. Properly utilize division sensor optimization in SEAD/DEAD role. Identify targets using all sensors available. Utilize fused data to execute proper section EA tactics. Conduct appropriate weapons delivery from medium and high altitudes.

Performance Standards

Properly analyzes mission planning factors / requirements
Properly conducts EW targeting in support of mission
Properly execute self-protect and stand-off jamming tactics against tactical SAMs IAW F-35 NTTP 3.22.3
Properly reacts to mission changes and pop-up threats

Prerequisites. DL-6402

SDL-6404 1.5 * B N E S 4 FMS

Goal. Conduct a night sortie as the SCAR in an environment that has multiple tactical SAMs in the AOR. Emphasis should be placed on area reconnaissance, weapons to target match, and weapons support requirements. Target audience is 3000 Phase complete.

Requirement. Execute sortie as SCAR-C. Brief ROE and a target precedence list. Detect, recognize, and PID targets with on and off board sensors. Emphasize targeting information from off-board assets in the C3 structure. Pass of self generated information across the C3 structure and pass targeting information via data link. Execute coordination of target strikes with at least two striker sections (FW/RW). Assess target destruction. Execute a minimum of 2 attacks with a minimum of 1 attack internal to the SCAR flight. Execute reactive SEAD in support of SCAR operations. Communicate MISREP to simulated MACCS.

Performance Standards

Manage assets on station to accomplish mission

Engage targets IAW briefed TPL and ROE
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
Execute briefed AS timeline
Execute valid deliveries IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisite. SDL-6401

SDL-6405 1.5 * B D E S 4 FMS

Goal. Conduct a day AI mission, delivering PGMs against a target that is protected by SAMs and unknown number of adversaries (AR-1/2, SAR1/2, IR-3). Target audience is 2000 Phase complete. Emphasis should be placed on route formation, sensor assignment along the route and in the target area, and reaction to pop-up threats (A/A and S/A).

Requirement. Plan a weapons delivery that achieves the required probability of damage on a target that is obscured by weather. The strike route should be planned according to the location of various SAM systems. Brief a game plan for actions by each member of the flight for dealing with pop threats.

Performance Standards

Destroy target IAW weaponeering requirements
Target S/A and A/A threats according to lethality
Maintain mutual support
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
Execute valid deliveries IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisites. SDL-6401.

DL-6406 1.5 * B (N) FLSE A 4 F-35

Goal. Conduct a division close escort/screen, in support of a strike package (Gen IV), against an unknown number of adversaries (AR-1/2, SAR1/2, IR-3) that employ AEA. Emphasis should be placed on spacing between Gen IV and V aircraft in order to increase survivability of strike package.

Requirement. With a minimum of 80 NM separation between the fighters and adversaries commence the intercept at varying altitudes and airspeeds. Threat aircraft should employ to attrite fighters and execute maneuvers in an attempt to deny/degrade fighter SA as strike package ingresses and egresses the target area. Strike aircraft will be limited in their A/A load-out and will primarily rely on close escort/screen element for BVR protection.

Performance Standards

Attrite enemy aircraft to escort strike package to target
Tactical decision making IAW mission objectives
Target IAW game plan and GEN IV capabilities
Take valid shots

Prerequisites. DL-6401

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
ACM	AA	EXP, MACH 1+
TACTS		

External Syllabus Support. 2 Gen IV strikers, 4+ dissimilar adversaries with AEA.

DL-6407 1.5 * B,R N E A 4 F-35

Goal. Conduct a night division AI mission, delivering LGWs, against a target that is protected by SAMs and unknown number of adversaries (AR-1/2, SAR1/2, IR-3). Target audience is 3000 Phase complete. Emphasis should be placed on route formation, sensor assignment along the route and in the target area, and reaction to pop-up threats (A/A and S/A).

Requirement. Plan a weapons delivery that achieves the required probability of damage on a target that has to be detected via radar and EOTS. The strike route should be planned according to the location of various SAM systems. Brief a game plan for actions by each member of the flight for dealing with pop threats.

Performance Standards

Destroy target IAW weaponeering requirements
Target S/A and A/A threats according to lethality
Maintain mutual support
Execute reactive SEAD/DEAD IAW F-35 NTTP 3.22.3
Validate deliveries IAW F-35 NTTP 3.22.3

Prerequisites. DL-6405

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
GBU-12	1	GBU-32	
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
RSTD, ACM	AA	EXP, MACH 1+
TACTS		
ICM	HI FI EW, EW	
COMPLEX		
LGB	JDAM	

External Syllabus Support. 4+ dissimilar adversaries with AEA.

2.15.7 DESIGNATION EVENTS: MISSION COMMANDER (MC) STAGE

2.15.7.1 Purpose. To prepare and evaluate the prospective mission commander's ability to plan, brief and lead an event as a mission commander.

2.15.7.2 General. Refer to MAWTS-1 F-35 Course Catalog for ground academic training requirements.

2.15.7.3 Prerequisite. Prospective Mission Commanders (PMC) shall have a minimum of 500 hours in type.

2.15.7.4 Admin Notes

a. All MC events shall be evaluated by a designated WTI, NSAWC Airwing Strike Lead, or squadron commanding officer.

b. The MC evaluator will use the sortie requirement accomplishment criterion to determine whether the PMC completed the sortie. The PMC will use the performance standards to debrief the flight.

c. Completion of the MC syllabus meets the requirements for designation as a mission commander. At the discretion of the squadron commanding officer, a letter designating the aircrew as a mission commander shall be placed in the NATOPS jacket and APR. Re-designation for aircrew that do not require Core Skill Introduction Refresher training is at the discretion of the commanding officer.

MC-6501 1.5 * B (N) E A 4+ F-35

Goal. Conduct an Air Defense mission of defended assets for a continuous defined VUL period. Emphasis shall be placed on coordinating mission planning, asset integration, information flow, cap management, ROE, PHID, and overall mission accomplishment.

Requirement. Plan, brief, lead, and debrief an Air Defense mission against an unknown number of adversaries. Incorporate AC2W, ground-based air defense, air-refueling, and multiple fighter elements in the mission planning to achieve a cohesive defense of the defended assets. Fighter weapons control status is tight with ROE and PHID criteria set by the mission commander during mission planning according to theater of operation. Incorporate missile and fighter engagement zones as appropriate. Conduct the mass brief and the fighter brief. Conduct the mass debrief. Draw valid learning points.

Performance Standards

Supervise mission planning IOT ensure a timely and tactically sound plan
Effectively act as CAP manager
Decision-making and communications directs and coordinates blue fighters and agencies to accomplish the mission
Manage fallouts, alibis, and exceptions
Debrief relevant learning points from all participants
Accurately assess mission success or failure
Make effective recommendations to improve overall mission performance.

Prerequisite. DL-6407.

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
FLARES	24		

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
<i>RSTD,ACM</i>	AA	<i>EXP, MACH 1+</i>
<i>TACTS</i>		

External Syllabus Support. 6+ dissimilar adversaries with AEA.

MC-6502 1.5 * B,R N E A 4+ F-35

Goal. Conduct a night Air Interdiction Large Force Exercise. Emphasis shall be placed on coordinating mission planning, airborne decision-making, asset management and integration, and control of multiple aircraft elements and agencies.

Requirement. Plan, brief, lead, and debrief an Air Interdiction Large Force Exercise as a mission commander. Incorporate multiple blue air fighter, SEAD, EW, and strike elements. Conduct the mass brief and the fighter brief. Conduct the mass debrief. Draw valid learning points.

Performance Standards

Supervise mission planning IOT ensure a timely and tactically sound plan under a constrained timeline.

Effectively and safely lead and direct the entire strike package.

Manage fallouts, alibis, and exceptions.

Debrief relevant learning points from all participants.

Accurately assess mission success or failure.

Make effective recommendations to improve overall mission performance.

Prerequisite. DL-6501

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
CATM-9X	1		
GBU-12	1	GBU-32	AS DESIRED
FLARES	24		

Range

<i>Range Requirements</i>		
<i>Required Capabilities</i>	<i>Allowable substitutes</i>	<i>Desired Capabilities</i>
<i>RSTD,ACM</i>	AA	<i>EXP, MACH 1+</i>
<i>TACTS</i>		
<i>ICM</i>	HI FI EW, EW	
<i>COMPLEX</i>		
<i>LGB</i>	JDAM	

External Syllabus Support. 6+ dissimilar adversaries with AEA.

2.15.8 DESIGNATION EVENTS: WEAPONS SCHOOL GRADUATE INSTRUCTOR (INST) STAGE

2.15.8.1 Purpose. To track completion of Weapons Schools and designation as graduate instructors.

2.15.8.2 General. Letters from the squadron commanding officer awarding these designations shall be placed in the NATOPS jacket and APR.

INST-6601 Weapons and Tactics Instructor (WTI) Course graduate

INST-6602 Marine Division Tactics Course (MDTC) graduate

INST-6603 Naval Fighter Weapons School (TOPGUN) graduate.

2.15.9 SPECIFIC WEAPONS DELIVERY PROFICIENCY [SURFACE (SSWD); AERIAL (ASWD)]

2.15.9.1 Purpose. To track proficiency in specific weapons employment. SSWD-6701 - SSWD-6710 constitute weapons proficiency requirements as part of the Core Model Minimum Requirement (CMMR).

2.15.9.2 General

a. Emphasize safe, effective employment of all weapons.

b. Since air-to-air weapons employment involves live firing, flight leads, lead safes, and tractor aircrew will closely monitor aircrew for any unsafe tendencies.

c. Due to the dynamic nature of employing air-to-air weapons systems, commanding officers will ensure each ASWD brief includes detailed discussion of avoiding airborne debris and towed targets after air-to-air weapons employment.

d. In order to perform proper post flight analysis, all aircraft participating in ASWD sorties require operable VTR/CVRS.

SSWD-6701 1.5 180 B,R,M (N) A 1 F-35

Goal. Track proficiency in firing the MXXX 25mm Gun at a surface target.

Requirement. Must successfully employ the gun on two separate runs against a surface target for completion.

Ordnance. At least 220 25mm.

External Syllabus Support. Live strafing range.

SSWD-6702 1.5 180 B,R,M (N) A 1 F-35

Goal. Track proficiency in dropping laser guided bombs.

Requirement. Must drop one GBU-10, 12, 16 or 24 for completion.

Ordnance. At least one GBU-10, 12, 16, 24 or an LGTR.

SSWD-6703 1.5 180 B,R,M (N) A 1 F-35

Goal. Track proficiency in delivering JDAM.

Requirement. Deliver one JDAM.

Ordnance. One JDAM.

SSWD-6704 1.5 180 B,R,M (N) A 1 F-35

Goal. Track proficiency in delivering Small Diameter Bomb (SDB).

Requirement. Deliver one SDB.

Ordnance. One SDB.

ASWD-6710 1.5 1095 B,R,M (N) A 1 F-35

Goal. Introduce aerial gunnery (circular pattern). Emphasize pattern procedures, pipper control, firing technique, and post-flight analysis.

Requirement. Conduct a dry or live fire aerial gunnery pattern. Eight runs on a maneuvering or non-maneuvering banner/dart required for completion.

Performance Standards

Achieve 10% hits

Flies a consistent pattern

Responds to range safety officer commands

Prerequisite. BF stage complete

Ordnance

ORDNANCE	QUANTITY	ALLOWABLE SUBSTITUTES	NOTES
25 mm	220		
FLARES	24		

Range

Range Requirements		
Required Capabilities	Allowable substitutes	Desired Capabilities
AA GUNS		EXP

External Syllabus Support. One banner/dart tow aircraft.

ASWD-6711 1.5 1095 B,R,M (N) A 1 F-35

Goal. Track proficiency in employment of an AIM-9X.

Requirement. Fire an AIM-9X against an airborne target.

Ordnance. 1 AIM-9X.

External Syllabus Support. Surface search and aerial search radar platform, (EP-3, E-2C, etc). One BQM, AQM, or TALD with IR augmentation package.

ASWD-6712 1.5 1095 B,R,M (N) A 1 F-35

Goal. Track proficiency in employment of an AIM-120C.

Requirement. Fire an AIM-120C against an airborne target.

Ordnance. 1 AIM-120C.

External Syllabus Support. Surface search and aerial search radar platform, (EP-3, E-2C, etc). One BQM, AQM, or TALD with radar augmentation package.

2.16 AVIATION CAREER PROGRESSION MODEL (8000)

2.16.1 Purpose. To enhance professional understanding of Marine Aviation and the MAGTF, and to ensure individuals possess the requisite skills to fill battle command and battle staff positions in support of the ACE and the MAGTF in a joint environment. The focus of training in the Aviation Career Progression Model (ACPM) is on academic events in the following areas:

- Marine Air Command and Control System (MACCS)
- Aviation Ground Support
- Joint Air Operations
- ACE Battle Staff
- MAGTF
- Seabased Operations
- Combatant Commander Organizations

2.16.1.2 All tactical T/M/S T&R manuals have ACPM training requirements embedded within the progressive training phases, including the flight leadership POI. If not already completed prior to assignment to VMR-1 or a VMR det (C-9, UC-35, C-12, or C-20), pilots assigned to an OSA platform should complete ACPM training requirements as outlined per their original T/M/S MOS T&R manual. Refer to NAVMC 3500.14, Aviation T&R Program Manual, as a primary reference for ACPM training requirements.

2.16.2 General. The ACPM is intended to be an integrated series of academic events contained within each phase of training. Accordingly, ACPM academic events are like any other academic event in that they serve as prerequisites to selected flight events or stages. Additionally, several ACPM academic events are integrated as prerequisites for flight leadership syllabi.

ACPM events may be conducted in group session with an assigned instructor teaching the period of instruction or they may be accomplished by self-paced instruction.

MAWTS-1 is responsible for the update and validity of the ACPM periods of instruction. In the future, courses may be consolidated or revised to meet changing requirements. Refer to the MAWTS-1 ACPM link for the current ACPM program of instruction:

<https://www.intranet.tecom.usmc.mil/sites/mawts1/aviation%20career%20progression%20model/forms/allitems.aspx>

Completed events shall be manually logged and tracked in M-SHARP.

ACPM academic events, along with their identifying prerequisite association with other training phases/stages/events, are listed below.

STAGE	TRNG CODE	T&R DESCRIPTION	ACAD TIME	TO BE COMPLETED DURING
ACPM	8200	MACCS AGENCIES, FUNCTIONS AND CONTROL OF AIRCRAFT AND MISSILES	0.6	2000 PHASE
ACPM	8201	MWCS BRIEF	0.4	2000 PHASE
ACPM	8202	ACA AND AIRSPACE	0.5	2000 PHASE
ACPM	8210	AVIATION GROUND SUPPORT	0.6	2000 PHASE
ACPM	8230	ACE BATTLESTAFF	0.6	2000 PHASE
ACPM	8231	BATTLE COMMAND DISPLAY	0.3	2000 PHASE
ACPM	8240	SIX FUNCTIONS OF MARINE AVIATION	1.5	2000 PHASE
ACPM	8241	JTAR/ASR INTRODUCTION AND PRACTICAL APPLICATION CLASS	0.5	2000 PHASE
ACPM	8242	SITE COMMAND PRIMER	0.7	2000 PHASE
ACPM	8250	THEATER AIR GROUND SYSTEM (TAGS)	0.6	2000 PHASE
ACPM	8300	AIR DEFENSE	0.6	3000 PHASE
ACPM	8310	FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS	0.4	3000 PHASE
ACPM	8311	MARINE CORPS TACTICAL FUEL SYSTEMS	0.2	3000 PHASE
ACPM	8320	JOINT STRUCTURE & JOINT AIR OPERATIONS	1.5	3000 PHASE
ACPM	8321	JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT	0.3	3000 PHASE
ACPM	8322	JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT	0.2	3000 PHASE
ACPM	8323	JOINT AIR TASKING CYCLE PHASE 3: WEAPONING AND ALLOCATION	0.2	3000 PHASE
ACPM	8324	JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION	0.2	3000 PHASE
ACPM	8325	JOINT AIR TASKING CYCLE PHASE 5:	0.2	3000 PHASE
ACPM	8326	JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESSMENT	0.2	3000 PHASE
ACPM	8340	INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF	0.5	3000 PHASE
ACPM	8350	PHASING CONTROL ASHORE	0.5	3000 PHASE
ACPM	8351	TACRON ORGANIZATIONS AND FUNCTIONS	TBD	3000 PHASE
ACPM	8630	TACTICAL AIR COMMAND CENTER (TACC)	0.7	6000 PHASE
ACPM	8660	JOINT OPS INTRO	0.4	6000 PHASE
ACPM	8640	JOINT DATA NETWORK	0.4	6000 PHASE
ACPM	8641	MAGTF THEATER	1.5	6000 PHASE
ACPM	8620	ESG/CSG INTEGRATION	TBD	6000 PHASE
TOTAL ACPM STAGE			28	13.5

2.17 VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX

VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX											
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI			
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #		
CORE SKILLS (2000 Phase)											
FAM/NAV/INST/EP	SFAM	2101R	90	FAM	2101R	FAM	2101R	FAM	2101R	8000	
DAY FAM/NAV/INST	FAM	2102R	365	FAM	2102R	FAM	2102R	FAM	2102R	2101	
ADV HANDLING	FAM	2103R	365		2103R		2103R		2103R	2102	
DAY/NIGHT AR SIM	SAAR	2201R	*		2201R					8201	
DAY AR	AAR	2202R	365	AAR	2202R	AAR	2202R	AAR		2201,2102	2102
NIGHT AR	AAR	2203R	180		2203R				2203R	2201,2202	2102,2202
DAY/NIGHT AS GUNNERY	SAS	2301R	90		2301R		2301R			8202	
SENSOR INT / LGW	SAS	2302R	365		2302R		2302R				
SENSOR INT / IAM	SAS	2303R	365		2303R		2303R				
DAY AS GUNNERY	AS	2304R	90	AS	2304R	AS	2304R	AS	2304R	2301	2102,2301
NIGHT AS GUNNERY	AS	2305R	180		2305R		2305R		2305R	2301,2304	2102,2301,2304
SENSOR INT LGW	AS	2306R	180		2306R		2306R		2306R	2302	2102,2302
SENSOR INT IAM	AS	2307R	180		2307R		2307R		2307R	2303	2102,2303
OBFM	SBFM	2401	*		2401					8210,2103	
OBFM	BFM	2402R	180		2402R		2402R		2402R	2401	2102,2103
DBFM	SBFM	2403	*		2403					2401	
DBFM	BFM	2404R	180	BFM	2404R	BFM	2404R	BFM	2404R	2403	2102,2103
HABFM	BFM	2405R	90		2405R		2405R		2405R	2404	2102,2103
DISSIMILAR HABFM	BFM	2406R	365		2406R		2406R		2406R	2405	2102,2103,2405
2V1 ENGAGED	SACM	2501R	*		2501R		2501R			8230,2406	
2V1 ENGAGED	ACM	2502R	180	ACM	2502R	ACM	2502R	ACM		2501	
2V1+1 DELOUSE DRILL	ACM	2503R	180		2503R		2503R		2503R	2502	2502
2VX BVR	STI	2601R	180		2601R		2601R			8231	
2VX DIS BVR	TI	2602R	180		2602R		2602R		2602R	2601	2102,2601
SHORT RANGE COMMIT	STI	2603R	180	TI	2603R	TI	2603R	TI		2602	
SHORT RANGE COMMIT	TI	2604R	180		2604R		2604R		2604R	2503,2603,2601	2102,2603,2601
CMD/VID ESCORT	STI	2605R	180		2605R		2605R		2605R	2601	
DAY/NIGHT NST	SNT	2701R	180		2701R		2701R			8240	
NST	NT	2702R	365	NT	2702R	NT	2702R	NT	2702R	2701	2102,2701
SIGNATURE MANAGEMENT	SNT	2703R	*		2703R		2703R			2602	
EA BASICS	SSEAD	2801R	180	SEADAD	2801R	SE	2801R	SEAD	2801R	8241,8242,8250	
LARGE FORCE EXERCISE	LFE	2901R	180	LFE	2901R	LFE	2901R	LFE	2901R		2102

VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX											
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI			
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #		
MISSION SKILLS (3000 Phase)											
TYPE 1/2/3 CONTROL	SCAS	3101R	180	CAS	3101R	CAS	3101R	CAS		8300,8310	2102,2301,2302,2303
DAY CAS	CAS	3102R	180		3102R		3102R		3101	2102,3101	
TYPE 1/2/3 CONTROL	SCAS	3103R	180		3103R		3103R		3101	3101	
NIGHT CAS	CAS	3104R	180		3104R		3104R		3102,3103	2102,3102,3101	
URBAN CAS	SCAS	3105R	180		3105R		3105R		3101,3103		
URBAN CAS	CAS	3106R	365		3106R		3106R		3105	2102,3105	
HIGH THREAT CAS	SCAS	3107R	180		3107R		3107R		2801,3101,3103	3101	
DAY/NIGHT AR	SAR	3201R	180	AR	3201R	AR	3201R	AR		8311	
DAY AR	AR	3202R	180		3202R		3202R		3201	2102,3201	
NIGHT AR	AR	3203R	180		3203R		3203R		3201,3202	2102,3201,3202	
SCAR BASICS	SCAR	3301R	180	SCAR	3301R	SCAR	3301R	SCAR		3203,8320	
SCAR	SCAR	3302R	180		3302R		3302R		3302R	3203,3301	2102,3301
LARGE FORCE SCAR	SSCAR	3303R	365		3303R		3303R		3301	3301	
DIVISION SWEEP	SOAAW	3401R	180	OAAW	3401R	OAAW	3401R	OAAW		2605,8321-8326	2601,2603,2605
ESCORT	SOAAW	3402R	180		3402R		3402R		3401	2601,2603,2605	
ESCORT	OAAW	3403R	180		3403R		3403R		3402	2102,2601,2603,2605,3402	
SECTION DCA	SAAD	3501	365	AAD	3501	AAD		AAD		2605,8340,8350	
SECTION DCA	AAD	3502R	180		3502R		3502R		3501	2102,3501	
DIVISION DCA	SAAD	3503R	180		3503R		3503R		3501	3501	
DIVISION DCA	AAD	3504R	180		3504R		3504R		3503	2102,3501,3502,3503	
SECTION AI	SAI	3601R	180	AI	3601R	AI	3601R	AI		2304,8630,8640,2605	2303,2605
SECTION AI	AI	3602R	180		3602R		3602R		2305,3601	2102,2301,2604,2304	
DIVISION AI	SAI	3603	180		3603				2305,3601	3601,3602	
DIVISION AI	AI	3604	180		3604				3603,3602	2102,3601,3602	
DIVISION AI	AI	3605R	180		3605R		3605R		3604	2102,3604,3603,3602,3601	
DIVISION SEAD/DEAD	SSE	3701R	180	SE	3701R	SE	3701R	SE		2801,3603,8641	2801
DIVISION SEAD/DEAD	SE	3702R	180		3702R		3702R		3701	2801,3701	
EXPEDITIONARY OPS	EXP	3801R	365	EXP	3801R	EXP	3801R	EXP	3801R	2102	2102

VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX													
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING		
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI					
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #				
CORE PLUS (4000 Phase)													
FOB SIM	SFOB	4101R	*		4101R		4101R			2102			
DAY FOB	FOB	4102R	365	FOB	4102R	FOB	4102R	FOB		4101	2102		
NIGHT FOB	FOB	4103R	365		4103R		4103R		4103R	4102	2102, 4202		
EP CQ SIM	SFCLP/CQ	4201R	*		4201R		4201R			2102	2101		
DAY FCLP	FCLP/CQ	4202R	365	FCLP /CQ	4202R	FCLP /CQ	4202R	FCLP /CQ		4201	2102		
NIGHT FCLP	FCLP/CQ	4203R	365		4203R		4203R		4203R	4203R	2102, 4202	2102, 4202	
DAY CQ	FCLP/CQ	4204R	365		4204R		4204R		4204R	4204R	4202, 2102	2102	
NIGHT CQ	FCLP/CQ	4205R	365		4205R		4205R		4205R	4205R	4203, 4204	2102, 4204	
NTISR (THEATRE DEP)	MIR	4301R	365	MIR	4301R	MIR	4301R	MIR	4301R	3201	2102		
CONVOY ESCORT	AESC	4401R	365	AESC	4401R	AESC	4401R	AESC	4401R	3203	2102		
ASSAULT SPT ESCORT	AESC	4402R	365	AESC	4402R	AESC	4402R	AESC	4402R	3203	2102		
FAC (A) ESCORT	AESC	4403	*		4403					2102	2102		
SSC	AMT	4501R	365	AMT	4501R	AMT	4501R	AMT	4501R	3203	2102		
WASEX	AMT	4502R	365		4502R		4502R		4502R	4502R	3203, 3605	2102	
FW (PGM) LOW/MED THREAT	SFAC (A)	4601R	540	FAC (A)	4601R	FAC (A)	4601R	FAC (A)		6314			
FW (GP) LOW/MED THREAT	SFAC (A)	4602R	180		4602R		4602R		4602R	4602R	4602R	4601	
FW (GP) LOW THREAT	FAC (A)	4603	*		4603							4602	4601, 4602, 2102
FW (GP/PGM) LOW THREAT	FAC (A)	4604R	180		4604R		4604R		4604R	4604R	4604R	4602	4601, 4602, 2102
RW CONTROL	FAC (A)	4605	*		4605							4602	2102
AIRSPOT	SFAC (A)	4606	*		4606							4602	2102
URBAN	FAC (A)	4607R	365		4607R		4607R		4607R	4607R	4607R	4603, 4605	2102
NIGHT LOW/MED THREAT	FAC (A)	4608R	180		4608R		4608R		4608R	4608R	4608R	4604	2102
ADVERSE WX HIGH THRT	SFAC (A)	4609R	540		4609R		4609R		4609R	4609R	4609R	4603-4607	2102
MULTI-ELEMENT INTEG	SFAC (A)	4610R	180		4610R		4610R		4610R	4610R	4610R	4603, 4608, 4609	2102
2 ELEMENT INTEGRATION	FAC (A)	4611	*		4611							4604, 4610	2102
3 ELEMENT INTEGRATION (FAC (A) QUAL)	FAC (A)	4612R	365		4612R		4612R		4612R	4612R	4612R	4611	2102
UAS/UCAV INTEGRATION	FAC (A)	4613	*		4613							4612	2102
NSFS AIRSPOT	FAC (A)	4614	*		4614							4612	2102
AC-130/HARVEST HAWK INTEGRATION	FAC (A)	4615	*	4615					4612	2102			
MULTIPLE AGENCY	TAC (A)	4701R	545	TAC (A)	4701R	TAC (A)	4701R	TAC (A)	4701R	4612	2102		

VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX											
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI			
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #		
INSTRUCTOR TRAINING (5000 Phase)											
IAW MAWTS-1 IP PROGRAM GUIDE	IP	5101	*	IP	5101	IP		IP	6407	2304,2307	
	IP	5102	*		5102				5101	2405	
	SIP	5103	*		5103				5102	3107	
	SIP	5104	*		5104		5104R		5103	3603	
IAW MAWTS-1 FAC(A) I PROGRAM GUIDE	SFAC(A) I	5201	*	FAC(A) I	5201	FAC(A) I		FAC(A) I	4612	4610	
	FAC(A) I	5202	*		5202				5201	4612	
	FAC(A) I	5203R	*		5203R		5203R		5202	4612	
FLSE EXAM	FE	5301R	*	FE	5301R	FE	5301R	FE	5104		
NATOPS STAN	SFE	5302R	*		5302R		5302R				
INST STAN	SFE	5303R	*		5303R		5303R				
REQUIREMENTS, CERTIFICATIONS, QUALIFICATIONS, AND DESIGNATIONS {R,C,Q,D} (6000 Phase)											
NATOPS CHECK	RQD	6101R	365	RQD	6101R	RQD	6101R	RQD	6101R		
INSTRUMENT CHECK	RQD	6102R	365		6102R		6102R		6102R		
SEC LEADER PROF FLIGHT	RQD	6103R	90		6103R		6103R		6103R		
DIV LEADER PROF FLIGHT	RQD	6104R	180		6104R		6104R		6104R		
MSN CMDR PROF FLIGHT	RQD	6105R	365		6105R		6105R		6105R		
STRAT TANKER	RQD	6106R	545		6106R		6106R		6106R		
FCF SIM	RQD	6107R	1095		6107R		6107R		6107R		
DAY FOB	QUAL	6201R	*	QUAL	6201R	QUAL	6201R	QUAL	6201R	2101,2102	
NIGHT FOB	QUAL	6202R	*		6202R		6202R		6202R	4103	
DAY CQ	QUAL	6203R	*		6203R		6203R		6203R	4204	2102
NIGHT CQ	QUAL	6204R	*		6204R		6204R		6204R	4205	2102
LSO QUAL	QUAL	6205R	*		6205R		6205R		6205R	6203,6204	2102
FCF QUAL	QUAL	6206R	*		6206R		6206R		6206R	6107	2102
FAC(A) QUAL	QUAL	6207R	*		6207R		6207R		6207R	4612	
TAC(A) QUAL	QUAL	6208R	*		6208R		6208R		6208R	4701	

VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX											
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI			
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #		
COMBAT/FLIGHT LEADERSHIP											
SL BASICS	SSL	6301	*		6301					8620,8640,8660	2101
DAY PGM / STRAFE	SL	6302	*		6302					6301	2102,2304,2306,2307
OBFM	SL	6303	*		6303					6301	2102,2402
DBFM	SL	6304	*		6304					6303	2102,2404
HABFM	SL	6305	*		6305					6304	2102,2405
DAY CAS	SSL	6306	*		6306					6302	3101
URBAN CAS	SSL	6307	*		6307					6302	3105
NIGHT CAS	SL	6308	*	SL	6308	SL		SL		6307	2102,3104
SECTION AR	SL	6309	*		6309					6302	2102,3202
2VX BVR	SSL	6310	*		6310					6301	2601
SECTION DCA	SL	6311	*		6311					6310	2102,3502
2V1 ENGAGED (DISSIMILAR)	SL	6312	*		6312					6311	2102,2502
DAY AI	SSL	6313	*		6313					6310	3602
NIGHT AI	SL	6314R	*		6314R		6314R			6313	2102,3602
DL BASICS	SDL	6401	*		6401					6314	2101
DIVISION DCA	DL	6402	*		6402					6401	2102,3504
SEAD/DEAD	SDL	6403	*		6403					6401	3701
SCAR	SDL	6404	*	DL	6404	DL		DL		6401	3301
DAY AI	SDL	6405	*		6405					6401	3603
ESCORT	DL	6406	*		6406					6401	2102,3403
NIGHT AI	DL	6407R	*		6407R		6407R			6405,6401	2102,3605
AIR DEFENSE	MC	6501	*		6501					6407	2102,2901
NIGHT AI	MC	6502R	*	MC	6502R	MC		MC		6501	2102,2901
WTI	INSTR	6601	*								
MDTC	INSTR	6602	*	INST		INST		INST			
TOPGUN	INSTR	6603	*								
GAU-22/A	SSWD	6701R	180		6801R		6801R			6801R	
GBU-12	SSWD	6702R	180		6802R		6802R			6802R	
GBU-32	SSWD	6703R	180		6803R		6803R			6803R	
SDB II	SSWD	6704R	180		6804R		6804R			6804R	
GAU-22/A	ASWD	6710R	1095		6810R		6810R			6810R	
AIM-9X	ASWD	6711R	1095		6811R		6811R			6811R	
AIM-120	ASWD	6712R	1095		6812R		6812R			6812R	
REQUIRED ORD NA	TRK	6724	*		6924						
REQUIRED ADV NA	TRK	6725	*		6925						
REQUIRED RANGE NA	TRK	6726	*		6926						

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VMFA F-35B PILOT ATTAIN AND MAINTAIN MATRIX												
T&R EVENT INFORMATION				ATTAIN PROFICIENCY				MAINTAIN PROFICIENCY		PREREQUISITES	CHAINING	
T&R DESCRIPTION	SKILL	EVENT #	RE-FLY	BASIC POI		REFRESHER POI		MAINTAIN POI				
				SKILL	EVENT #	SKILL	EVENT #	SKILL	EVENT #			
NATOPS OPEN BOOK EXAM	NTPS	6801R	365	NTPS	6801R	NTPS	6801R	NTPS	6801R			
NATOPS CLOSED BOOK EXAM	NTPS	6802R	365		6802R		6802R		6802R	6802R		
NATOPS ORAL EXAM	NTPS	6803R	365		6803R		6803R		6803R	6803R		
INSTRUMENT EXAM	INST	6804R	365	INST	6804R	INST	6804R	INST	6804R			
INSTRUMENT GRD SCHOOL	INST	6805R	365		6805R		6805R		6805R	6805R		

2.18 VMFA F-35B PILOT T&R SYLLABUS MATRIX

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
CORE SKILLS (2000 Phase)													
FAMILIARIZATION (FAM)													
SFAM	2101	FAM/NAV/INST/EP	S	1	D/N	90	B,R,M			X	1.5		
FAM	2102	DAY FAM/NAV/INST	A	1	(N)	365	B,R,M		AA			X	1.5
FAM	2103	ADV HANDLING	A	1	D	365	B,R,M		AA			X	1.5
FAM TOTAL										1	1.5	2	3.0
AIR-TO-AIR REFUELING (AAR)													
SAAR	2201	DAY/NIGHT AAR SIM	S	1	D/N	*	B			X	1.5		
AAR	2202	DAY AAR	A	1	D	365	B,R		MOA			X	1.5
AAR	2203	NIGHT AAR	A	1	N	180	B,R,M		MOA			X	1.5
AAR TOTAL										1	1.5	2	3.0
BASIC AIR-TO-SURFACE (AS)													
SAS	2301	D/NIGHT AS GUNNERY	S	1	D/N	90	B,R			X	1.5		
SAS	2302	SENSOR INT / LGW	S	1+	(N)	365	B,R			X	1.5		
SAS	2303	SENSOR INT / IAM	S	1+	(N)	365	B,R			X	1.5		
AS	2304	DAY AS GUNNERY	A	2		90	B,R,M	EXP/220 25MM	RSTD/STRAFE			X	1.5
AS	2305	NIGHT AS GUNNERY	A	2	N	180	B,R,M	EXP/220 25MM	RSTD/STRAFE			X	1.5
AS	2306	SENSOR INT LGW	A	2	(N)	180	B,R,M	2XLGW/220 25MM	RSTD/STRAFE LGB/TGT-DISP			X	1.5
AS	2307	SENSOR INT IAM	A	2	(N)	180	B,R,M	2XIAM/220 25MM	RSTD/STRAFE JDAM/TGT-DISP			X	1.5
BA TOTAL										3	4.5	4	6.0
BASIC FIGHTER MANEUVERING (BFM)													
SBFM	2401	OBFM	S	2		*	B			X	1.5		
BFM	2402	OBFM	A	2		180	B,R,M	EXP/CATM-9X/P5	AA/EXP			X	1.5
SBFM	2403	DBFM	S	2		*	B			X	1.5		
BFM	2404	DBFM	A	2		180	B,R,M	EXP/CATM-9X/P5	AA/EXP			X	1.5
BFM	2405	HABFM	A	2		90	B,R,M	EXP/CATM-9X/P5	AA/EXP			X	1.5
BFM	2406	DISSIMILAR HABFM	A	2		365	B,R,M	EXP/CATM-9X/P5	AA/EXP			X	1.5
BF TOTAL										2	3.0	4	6.0
AIR COMBAT MANEUVERING (ACM)													
SACM	2501	2V1 ENGAGED	S	2		*	B,R			X	1.5		
ACM	2502	2V1 ENGAGED	A	2		180	B,R	EXP/CATM-9X/P5	AA/TACTS/EXP			X	1.5
ACM	2503	2V1+1 DELOUSE DRILL	A	2		180	B,R,M	EXP/CATM-9X/P5	AA/TACTS/EXP			X	1.5
AM TOTAL										1	1.5	2	3.0

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
TACTICAL INTERCEPTS (TI)													
STI	2601	2VX BVR	S	2	(N)	180	B,R			X	1.5		
TI	2602	2VX DIS BVR	A	2	(N)	180	B,R,M	EXP/CATM-9X/P5	ACM/TACTS/EXP			X	1.5
STI	2603	SHORT RANGE COMMIT	S	2	(N)	180	B,R			X	1.5		
TI	2604	SHORT RANGE COMMIT	A	2	(N)	180	B,R,M	EXP/CATM-9X/P5	ACM/TACTS/EXP			X	1.5
STI	2605	CMD/VID ESCORT	S	2	(N)	180	B,R,M			X	1.5		
TI TOTAL										3	4.5	2	3.0
NON-SANCTUARY TACTICS (NT)													
SNT	2701	DAY/NIGHT NST	S	1	(N)	180	B,R,M			X	1.5		
NT	2702	NST	A	2	D	365	B,R,M	EXP	LAT/HIFIEW			X	1.5
SNT	2703	SIGNATURE MANAGEMENT	S	1	D	*	B,R			X	1.5		
NT TOTAL										2	3.0	1	1.5
SUPPRESSION OF ENEMY AIR DEFENSE (SEAD)													
SEAD	2801	EA BASICS	S	2	(N)	180	B,R,M			X	1.5		
SE TOTAL										1	1.5	0	0.0
LARGE FORCE EXERCISE (LFE)													
LFE	2901	LARGE FORCE EXER	A	4+	(N)	365	B,R,M	PER MISSION	PER MISSION			X	1.5
LFE TOTAL										0	0.0	1	1.5
CORE SKILLS TOTAL										14	21.0	18	27.0
MISSION SKILLS (3000 Phase)													
CLOSE AIR SUPPORT (CAS)													
SCAS	3101	TYPE 1/2/3 CONTROL	S	2	D	180	B,R			X	1.5		
CAS	3102	DAY CAS	A	2	D	180	B,R	2XPGM/EXP/220 25MM	RSTD/LGB/STRAFE/TGT-DISP			X	1.5
SCAS	3103	TYPE 1/2/3 CONTROL	S	2	N	180	B,R,M			X	1.5		
CAS	3104	NIGHT CAS	A	2	N	180	B,R,M	2XPGM/EXP/220 25MM	RSTD/LGB/STRAFE/TGT-DISP			X	1.5
SCAS	3105	URBAN CAS	S	2	(N)	180	B,R,M			X	1.5		
CAS	3106	URBAN CAS	A	2	(N)	365	B,R,M	2XPGM/EXP/220 25MM	URBN WPNS			X	1.5
SCAS	3107	HIGH THREAT CAS	S	2	(N)	180	B,R,M			X	1.5		
CAS TOTAL										4	6.0	3	4.5
ARMED RECONNAISSANCE (AR)													
SAR	3201	DAY/NIGHT AR	S	2	D/N	180	B,R			X	1.5		
AR	3202	DAY AR	A	2	D	180	B,R	2XPGM/EXP/220 25MM	RSTD/LGB/STRAFE/TGT-DISP			X	1.5
AR	3203	NIGHT AR	A	2	N	180	B,R,M	2XPGM/EXP/220 25MM	RSTD/LGB/STRAFE/TGT-DISP			X	1.5
AR TOTAL										1	1.5	2	3.0

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
STRIKE COORDINATION AND RECONNAISSANCE (SCAR)													
SSCAR	3301	SCAR BASICS	S	4	(N)	180	B,R			X	1.5		
SCAR	3302	SCAR	A	2	(N)	180	B,R,M	2XPGM/EXP/220 25MM	RSTD/LGB/STRAFE/TGT-DISP/EW			X	1.5
SSCAR	3303	LARGE FORCE SCAR	S	4	(N)	365	B,R,M			X	1.5		
SCAR TOTAL										2	3.0	1	1.5
OFFENSIVE ANT-AIR WARFARE (OAAW)													
SOAAW	3401	DIVISION SWEEP	S	4	(N)	180	B,R,M			X	1.5		
SOAAW	3402	ESCORT	S	4	N	180	B,R			X	1.5		
OAAW	3403	ESCORT	A	4	(N)	180	B,R,M	EXP/CATM-9X/P5	ACM/TACTS/EXP			X	1.5
OAAW TOTAL										2	3.0	1	1.5
ACTIVE AIR DEFENSE (AAD)													
SAAD	3501	SECTION DCA	S	2	(N)	365	B			X	1.5		
AAD	3502	SECTION DCA	A	2	(N)	180	B,R	EXP/CATM-9X/P5	ACM/TACTS/EXP			X	1.5
SAAD	3503	DIVISION DCA	S	4	(N)	180	B,R			X	1.5		
AAD	3504	DIVISION DCA	A	4	(N)	180	B,R,M	EXP/CATM-9X/P5	ACM/TACTS/EXP			X	1.5
AAD TOTAL										2	3.0	2	3.0
AIR INTERDICTION (AI)													
SAI	3601	SECTION AI	S	2	D	180	B,R			X	1.5		
AI	3602	SECTION AI	A	2	D	180	B,R	EXP/2XIAM/CATM-9X	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
SAI	3603	DIVISION AI	S	4	N	180	B			X	1.5		
AI	3604	DIVISION AI	A	4	D	180	B	EXP/2XPGM/CATM-9X	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
AI	3605	DIVISION AI	A	4	N	180	B,R,M	EXP/2XPGM/CATM-9X	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
AI TOTAL										2	3.0	3	4.5
SUPPRESSION/DESTRUCTION OF ENEMY AIR DEFENSE (SEAD)													
SSEAD	3701	DIVISION SEAD/DEAD	S	4	N	180	B,R			X	1.5		
SEAD	3702	DIVISION SEAD/DEAD	A	4	(N)	180	B,R,M					X	1.5
SE TOTAL										1	1.5	1	1.5
EXPEDITIONARY (EXP)													
EXP	3801	EXPEDITIONARY OPS	A	1	(N)	365	B,R,M					X	1.5
EXP TOTAL										0	0.0	1	1.5
MISSION SKILLS TOTAL										14	21.0	14	21.0
CORE/MISSION SKILLS TOTAL										28	42.0	32	48.0

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
CORE PLUS (4000 Phase)													
FORWARD OPERATING BASE OPERATIONS (FOB)													
SFOB	4101	FOB SIM	S	1+	D/N	*	B,R			X	1.5		
FOB	4102	DAY FOB	A	1+	D	365	B,R					X	1.5
FOB	4103	NIGHT FOB	A	1+	N	365	B,R,M					X	1.5
EXP TOTAL										1	1.5	2	3.0
FIELD EXPEDITIONARY/CARRIER LANDING QUALIFICATION (FCLP/CQ)													
SCQ	4201	EP CQ SIM	S	1	D/N	*	B,R			X	1.5		
FCLP	4202	DAY FCLP	A	1	D	365	B,R					X	1.5
FCLP	4203	NIGHT FCLP	A	1	N	365	B,R,M					X	1.5
CQ	4204	DAY CQ	A	1	D	365	B,R					X	1.5
CQ	4205	NIGHT CQ	A	1	N	365	B,R,M					X	1.5
FCLP/CQ TOTAL										1	1.5	4	6.0
MULTI-SENSOR IMAGERY RECONNAISSANCE (MIR)													
MIR	4301	NTISR (THEATRE DEP)	A	1+	(N)	365	B,R,M		RECCE			X	1.5
MIR TOTAL										0	0.0	1	1.5
AERIAL ESCORT (AESC)													
AESC	4401	CONVOY ESCORT	A	2	(N)	365	B,R,M	LGW/CATM-9X/EXP	RSTD/TGT-MOVE			X	1.5
AESC	4402	ASSAULT SPT ESCORT	A	2+	(N)	365	B,R,M	LGW/CATM-9X/EXP	RSTD/TGT-MOVE			X	1.5
AESC	4403	FAC(A) ESCORT	A	2	(N)	*	B	LGW/CATM-9X/220X 25MM/EXP	RSTD/STRAFE/EW			X	1.5
TOTAL										0	0.0	3	4.5
ATTACK ENEMY MARITIME TARGETS (AMT)													
AMT	4501	SSC	A	2	(N)	365	B,R,M		MOA			X	1.5
AMT	4502	WASEX	A	2	(N)	365	B,R,M		MOA			X	1.5
AMT TOTAL										0	0.0	2	3.0

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
FORWARD AIR CONTROLLER (AIRBORNE) (FAC (A))													
SFAC (A)	4601	FW (PGM) LOW/MED THRT	S	2	(N)	540	B, R			X	1.5		
SFAC (A)	4602	FW (GP) LOW/MED THREAT	S	2	(N)	180	B, R, M			X	1.5		
FAC (A)	4603	FW PGM	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4604	FW GP	A	2	(N)	180	B, R, M	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4605	RW TYPE 1/2/3	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
SFAC (A)	4606	AIRSPOT	S/A	2	(N)	*	B			X	1.5		
FAC (A)	4607	URBAN	A	2	(N)	365	B, R, M	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/URBN			X	1.5
FAC (A)	4608	NIGHT FAC (A) BASICS	A	2	N	180	B, R, M	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
SFAC (A)	4609	ADVERSE WX, ELEV THRT	S	2	(N)	540	B, R, M			X	1.5		
SFAC (A)	4610	NIGHT MED THREAT	S	2	N	180	B, R, M			X	1.5		
FAC (A)	4611	2 ELEMENT INTEG	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4612	3 ELEMENT INTEG	A	2	N	365	B, R, M	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4613	UAV / UCAV INTEG	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4614	NSFS AIRSPOT	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A)	4615	AC-130 CFF	A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A) TOTAL										5	7.5	11	16.5
TACTICAL AIR CONTROLLER (AIRBORNE) (TAC (A))													
TAC (A)	4701	MULTIPLE AGENCY	A	1+	(N)	545	B, R, M		MOA			X	1.5
TAC (A) TOTAL										0	0.0	1	1.5
INSTRUCTOR/STANDARDIZATION TRAINING (5000 Phase)													
INSTRUCTOR PILOT (IP)													
IP	5101	BAS	A	2	D	*	B	PGM/220X 25MM/EXP	RSTD/STRAFE/JDAM/TGT-DISP			X	1.5
IP	5102	BFM	A	2	D	*	B	CATM-9X/P5/EXP	AA/EXP			X	1.2
IP	5103	NIGHT CAS	S	2	N	*	B			X	1.5		
IP	5104	DIVISION AI	S	4	N	*	B			X	1.5		
IP TOTAL										2	3.0	2	2.7
FORWARD AIR CONTROLLER (AIRBORNE) INSTRUCTOR [FAC (A) I]													
SFAC (A) I	5201	IAW MAWTS-1 FAC (A) I PROGRAM GUIDE	S	2	(N)	*	B			X	1.5		
FAC (A) I	5202		A	2	(N)	*	B	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A) I	5203		A	2	(N)	*	B, R	2XPGM/220X 25MM/EXP	RSTD/JCAS/EXP/SST			X	1.5
FAC (A) I TOTAL										1	1.5	2	3.0
FLIGHT LEAD STANDARDIZATION INSTRUCTOR (FLSE)													
FLSE	5301	FLSE EXAM				*	B, R						
FLSE	5302	NATOPS STAN	S	1	(N)	*	B, R			X	1.5		
FLSE	5303	INST STAN	S	1	(N)	*	B, R			X	1.5		
FLSE TOTAL										2	3.0	0	0.0

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS (6000 Phase)													
REQUIREMENTS (RQD)													
RQD	6101	NATOPS CHECK	S	1		365	B,R,M			X	1.5		
RQD	6102	INSTRUMENT CHECK	S	1		365	B,R,M			X	1.5		
RQD	6103	SEC LEAD PROF FLIGHT	A	2	(N)	90	B,R,M					X	1.5
RQD	6104	DIV LEAD PROF FLIGHT	A	4	(N)	180	B,R,M					X	1.5
RQD	6105	MSN CMDR PROF FLIGHT	A	6+	(N)	365	B,R,M					X	1.5
RQD	6106	STRAT TANKER	A	1	(N)	545	B,R,M					X	1.5
RQD	6107	FCF SIM	S	1		1095	B,R,M			X	1.5		
RQD TOTAL										3	4.5	4	6.0
QUALIFICATIONS (QUAL)													
QUAL	6201	DAY FOB	A	1	D	*	B,R					X	1.5
QUAL	6202	NIGHT FOB	A	1	N	*	B,R					X	1.5
QUAL	6203	DAY CQ	A	1	D	*	B,R					X	1.5
QUAL	6204	NIGHT CQ	A	1	N	*	B,R					X	1.5
QUAL	6205	LSO QUAL	A	1	(N)	1095	B,R					X	1.5
QUAL	6206	FCF QUAL	A	1	D	*	B,R					X	1.5
QUAL	6207	FAC(A) QUAL	A	2	(N)	*	B,R					X	1.5
QUAL	6208	TAC(A) QUAL	A	2	(N)	*	B,R					X	1.5
QUAL TOTAL												7	10.5
SECTION LEAD (SL)													
SSL	6301	SL BASICS	S	2	D	*	B			X	1.5		
SL	6302	DAY PGM / STRAFE	A	2	D	*	B	PGM/220X 25MM/EXP	RSTD/JDAM/STRAFE/TGT-DISP			X	1.5
SSL	6303	OBFM	S	2	D	*	B			X	1.5		
SSL	6304	DBFM	S	2	D	*	B			X	1.5		
SL	6305	HABFM	A	2	D	*	B	CATM-9X/P5/EXP	AA/EXP			X	1.5
SSL	6306	DAY CAS	S	2	(N)	*	B			X	1.5		
SSL	6307	URBAN CAS	S	2	N	*	B			X	1.5		
SL	6308	NIGHT CAS	A	2	N	*	B	2XPGM/220X 25MM/EXP	JCAS/STRAFE/TGT-DISP			X	1.5
SL	6309	SECTION AR	A	2	N	*	B	2XPGM/220X 25MM/EXP	RSTD/LGB/STRAFE/TGT-DISP			X	1.5
SSL	6310	2VX BVR	S	2	(N)	*	B			X	1.5		
SL	6311	SECTION DCA	A	2	(N)	*	B	CATM-9X/P5/EXP	ACM/TACTS/EXP			X	1.5
SL	6312	2V1 ENGAGED (DISSIM)	A	2	D	*	B	CATM-9X/P5/EXP	ACM/TACTS/EXP			X	1.5
SSL	6313	DAY AI	S	2	D	*	B			X	1.5		
SL	6314	NIGHT AI	A	2	N	*	B,R	2XPGM/CATM-9X/EXP	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
SL TOTAL										7	10.5	7	10.5

VMFA F-35B PILOT T&R SYLLABUS MATRIX													
F-35B STAGE	EVENT	DESCRIPTION	DEVICE	# DEVICES REQD	CONDITIONS	REFLY	POI	ORDNANCE	RANGE	SIM EVENTS	SIM HOURS	FLT EVENTS	FLT HOURS
DIVISION LEAD (DL)													
SDL	6401	DL BASICS	S	4	D	*	B			X	1.5		
DL	6402	DIVISION DCA	A	4	D	*	B	CATM-9X/P5/EXP	ACM/TACTS/EXP			X	1.5
SDL	6403	SEAD/DEAD	S	4	N	*	B			X	1.5		
SDL	6404	SCAR	S	4	N	*	B			X	1.5		
SDL	6405	DAY AI	S	4	D	*	B			X	1.5		
DL	6406	ESCORT	A	4	(N)	*	B	CATM-9X/P5/EXP	ACM/TACTS/EXP			X	1.5
DL	6407	NIGHT AI	A	4	N	*	B,R	2XPGM/CATM-9X/EXP	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
DL TOTAL										4	6.0	3	4.5
MISSION COMMANDER (MC)													
MC	6501	AIR DEFENSE	A	4+	(N)	*	B	CATM-9X/P5/EXP	ACM/TACTS/EXP			X	1.5
MC	6502	NIGHT AI	A	4+	N	*	B,R	2XPGM/CATM-9X/EXP	ACM/TACTS/EXP/HIFIEW COMPLEX			X	1.5
MC TOTAL										0	0.0	2	3.0
INSTRUCTOR (INSTR)													
INSTR	6601	WTI				*	B						
INSTR	6602	MDTC				*	B						
INSTR	6603	TOPGUN				*	B						
SPECIFIC WEAPONS DELIVERY PROFICIENCY [SURFACE (SSWD); AERIAL (ASWD); TRACKING (TRK)]													
SSWD	6701	GAU-22/A	A			180	B,R,M						
SSWD	6702	GBU-12	A			180	B,R,M						
SSWD	6703	GBU-32	A			180	B,R,M						
SSWD	6704	SDB II	A			180	B,R,M						
ASWD	6710	GAU-22/A	A			1095	B,R,M						
ASWD	6711	AIM-9X	A			1095	B,R,M						
ASWD	6712	AIM-120	A			1095	B,R,M						
TRK	6724	REQUIRED ORD NA	A										
TRK	6725	REQUIRED ADV NA	A										
TRK	6726	REQUIRED RANGE NA	A										
NATOPS AND INSTRUMENT ACADEMIC EVENTS (NTPS / INST)													
NTPS	6801	NATOPS OPEN BOOK				365	B,R,M						
NTPS	6802	NTPS CLOSED BOOK				365	B,R,M						
NTPS	6803	NATOPS ORAL EXAM				365	B,R,M						
INST	6804	INSTRUMENT EXAM				365	B,R,M						
INST	6805	INSTRUMENT GRD SCHOOL				365	B,R,M						

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2.21 SYLLABUS EVALUATION FORMS. ATFs MAY be downloaded from the MAWTS-1
Sharepoint: <https://ips.usmc.mil/sites/mawts1/default.aspx>