

NAVAL AIR TRAINING COMMAND



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CNATRAINST 1542.173A
12 Dec 2023

CHIEF OF NAVAL AIR TRAINING



ADVANCED MARITIME COMMAND AND CONTROL (MC2) NAVAL FLIGHT OFFICER TRAINING SYSTEM INSTRUCTOR UNDER TRAINING (IUT) MASTER CURRICULUM GUIDE

2023



DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
250 LEXINGTON BLVD SUITE 179
CORPUS CHRISTI TX 78419-5041

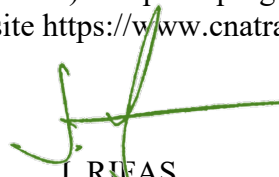
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From: Chief of Naval Air Training

Subj: ADVANCED MARITIME COMMAND AND CONTROL NAVAL FLIGHT OFFICER
TRAINING SYSTEM INSTRUCTOR UNDER TRAINING CURRICULUM

1. Purpose. To publish curriculum for training to qualify Instructor Naval Flight Officers (NFO) for the purpose of instructing Student NFOs in the Advanced Maritime Command and Control phases of Naval Air Training Command flight training.
2. Cancellation. CNATRAINST 1542.173 will be cancelled when the last student enrolled completes the curriculum or is transitioned to the CNATRAINST 1542.173A.
3. Action. Changes to this curriculum must receive written authorization by the Chief of Naval Air Training (CNATRA).
4. Records Management. Records created as a result of this instruction, regardless of media and format, must be managed per Secretary of the Navy Manual 5210.1 of January 2019.
5. Review and Effective Date. Per this instruction, OPNAVINST 5215.17A, CNATRA N7 will review this instruction annually around the anniversary of its effective date to ensure applicability, currency, and consistency with Federal, DoD, SECNAV, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim, and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.
6. Forms. The CNATRA Forms required by this instruction are automated in the Training/Learning Manager Management System (T/LMS) computer program. Additional CNATRA forms are available on the CNATRA Web site <https://www.cnatra.navy.mil/pubs/forms.htm>.


J. RIFAS
Chief of Staff

Releasability and distribution:

This instruction is cleared for public release and is available electronically only via Chief of Naval Air Training Issuances Web site,
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COURSE DATA

1. Course Title. Advanced Maritime Command and Control Naval Flight Officer Training System Instructor Under Training Curriculum.
2. Course Identification Numbers (CIN). Advanced MC2 E-2 IUT Q-2D-3173; Advanced MC2 MPR IUT Q-2D-4173; Advanced MC2 E-6 IUT Q-2D-5273; Intermediate MC2 IUT Upgrade Q-2D-5173.
3. Location. Naval Air Station Pensacola, FL.
4. Course Status. Active.
5. Course Mission. The mission of the Advanced Maritime Command and Control (MC2) Naval Flight Officer Training System (NFOTS) Instructor Under Training (IUT) Curriculum is to provide prospective Instructor Naval Flight Officer (INFO) with the appropriate flight procedures, instructional methodology and techniques to instruct Student Naval Flight Officers (SNFOs) in the Advanced phases of MC2 flight training. Requests for amendments or deviations to this instruction shall be forwarded to the Chief of Naval Air Training (CNATRA) (N71).
6. Prerequisite Training. Designation as a military flight officer as required by CNATRA.
7. Security Clearance Requirements. None.
8. Follow-on Training. As required for the INFO to maintain currency.
9. Course Length. For time-to-train calculations for this Master Curriculum Guide (MCG) please refer to Chief of Naval Air Training (CNATRA) N3 Annual Time-to-Train Entitlement Notice for active 1542 series instructions on the CNATRA web site: <https://cnatra.navy.mil> under Resources, Publications, CNATRA OPS Documents.
10. Class Capacity. Variable.
11. Instructor Requirements. As established by Chief of Naval Operations (CNO) planning factors.
12. Course Curriculum Model Manager. Commander, Training Air Wing SIX (COMTRAWING SIX).
13. Quota Management Authority. CNATRA.
14. Quota Control. CNO.

15. Course Training Subjects. The Advanced MC2 NFOTS IUT curriculum is designed to train and qualify Advanced E-2, MPR and E-6 NFOTS instructors. It also contains IUT upgrade training designed to qualify designated MC2 INFOs as Intermediate MC2 simulator instructors.

a. MC2 IUT Administration

MC2 IUT ADMINISTRATION		
Stage	Symbol	Hours
Administration	ADM0101-4	4.0
Totals		4.0

b. MC2 IUT Ground Training

MC2 IUT GROUND TRAINING		
Stage	Symbol	Hours
Crew Resource Management	CRM0101	2.0
Instrument Ground School (IGS)	IGS0101	4.0
Instrument Ground School Exam	IGS0102	2.0
CNATRA Flight Instructor Training Course (FITC)	FTC0101-3	24.0
Multi-Crew Simulator (MCS) Familiarization	MCS0101-5	9.0
MCS EP Boldface Procedures Exam	MCS0106	1.0
MCS Device Introduction and Familiarization (FAM-0)	MCS0107	4.5
MCS Event Observation	OBS0101-3	10.5
Totals		57.0

c. E-2 IUT Training

(1) E-2 Ground Training

E-2 IUT GROUND TRAINING		
Stage	Symbol	Hours
Airborne Early Warning	E0101-2	7.0
Air Intercept Control	E0201-3	10.0
Totals		17.0

(2) E-2 Simulator Preparation

E-2 IUT SIMULATOR PREPARATION		
Stage	Symbol	Hours
Airborne Early Warning (AEW) Simulator Preparation	E1101	4.0
Air Intercept Control (AIC) Simulator Preparation	E1201	3.0
Tactical Crew Coordination (TCC) Simulator Preparation	E1301	3.0
E-2 Standardization Exam	E1302	1.0
Totals		11.0

(3) E-2 Simulator Training

E-2 IUT SIMULATOR TRAINING			
Flight/Events	Symbol	MCS	
		Flts	Hrs
Airborne Early Warning	E3101-2	2	3.0
Air Intercept Control 1	E3201-2	2	3.0
Air Intercept Control 2	E3301-4	4	6.0
Air Intercept Control Check Flight	E3490	1	1.5
Totals		9	13.5

d. MPR IUT Training

(1) MPR Ground Training

MPR IUT GROUND TRAINING		
Stage	Symbol	Hours
Surface Search and Littoral Surveillance	P0101-4	8.0
Electronic Warfare and Acoustic Operations	P0201-3	7.0
Maritime Patrol and Reconnaissance	P0301-2	5.0
Totals		20.0

(2) MPR Simulator Preparation

MPR IUT SIMULATOR PREPARATION		
Stage	Symbol	Hours
Surface Search and Littoral Surveillance Simulator Preparation	P1101-2	4.5
Electronic Warfare and Acoustic Operations Simulator Preparation	P1201	3.5
MPR Simulator Preparation	P1301-2	5.5
MPR Standardization Exam	P1303	1.0
Totals		14.5

(3) MPR Simulator Training

MPR IUT SIMULATOR TRAINING			
Flight/Events	Symbol	MCS	
		Flts	Hrs
Surface Search and Littoral Surveillance	P3101-6	6	9.0
Electronic Warfare	P3201-2	2	3.0
Acoustic Operations	P3301-2	2	3.0
MPR	P3401-2	2	6.0
MPR Check Flight	P3590	1	3.0
Totals		13	24.0

e. E-6 IUT Training

(1) E-6 Ground Training

E-6 IUT GROUND TRAINING		
Stage	Symbol	Hours
E-6 Communications and Operations	T0101-5	10.0
Totals		10.0

(2) E-6 IUT Simulator Preparation

E-6 IUT SIMULATOR PREPARATION		
Stage	Symbol	Hours
E-6 Communications and Operations Simulator Preparation	T1101	3.0
E-6 Standardization Exam	T1102	1.0
Totals		4.0

(3) E-6 IUT Simulator Training

E-6 IUT SIMULATOR TRAINING			
Flight/Events	Symbol	MCS	
		Flts	Hrs
E-6 Communication and Operations	T3101-8	8	21.0
E-6 Communications and Operations Check Flight	T3290	1	3.0
Totals		9	24.0

f. Intermediate MC2 IUT Upgrade Simulator Training

INTERMEDIATE MC2 IUT UPGRADE SIMULATOR TRAINING			
Flight/Events	Symbol	MCS	
		Flts	Hrs
Intermediate MC2 Simulator Instructor Upgrade	INT3101-7	7	10.5
Intermediate MC2 Simulator Instructor Upgrade Check Flight	INT3290	1	1.5
Totals		8	12.0

g. Annual MC2 INFO Ground Training (Recurring)

ANNUAL MC2 INFO GROUND TRAINING (Recurring)		
Stage	Symbol	Hours
Crew Resource Management	CRM0101	2.0
MCS Operational Risk Management	MCS0104	1.0
Instrument Ground School	IGS0101	4.0
Instrument Ground School Exam	IGS0102	2.0
MCS EP Boldface Procedures Exam	MCS0106	1.0
Totals		10.0

Note: Annual MC2 INFO Ground Training is applicable to all Advanced E-2, MPR and E-6 designated INFOS.

h. Annual INFO Simulator Preparation (Recurring)

(1) E-2

ANNUAL E-2 INFO SIMULATOR PREPARATION (Recurring)		
Stage	Symbol	Hours
E-2 Standardization Exam	E1302	1.0
Totals		1.0

(2) MPR

ANNUAL MPR INFO SIMULATOR PREPARATION (Recurring)		
Stage	Symbol	Hours
MPR Standardization Exam	P1303	1.0
Totals		1.0

(3) E-6

ANNUAL E-6 INFO SIMULATOR PREPARATION (Recurring)		
Stage	Symbol	Hours
E-6 Standardization Exam	T1102	1.0
Totals		1.0

i. Annual INFO Simulator Training (Recurring)

(1) E-2

ANNUAL E-2 INFO SIMULATOR TRAINING (Recurring)			
Flight/Events	Symbol	MCS	
		Flts	Hrs
Air Intercept Control Check Flight	E3490	1	1.5
Totals		1	1.5

(2) MPR

ANNUAL MPR INFO SIMULATOR TRAINING (Recurring)			
Flight/Events	Symbol	MCS	
		Flts	Hrs
MPR Check Flight	P3590	1	3.0
Totals		1	3.0

(3) E-6

ANNUAL E-6 INFO SIMULATOR TRAINING (Recurring)			
Flight/Events	Symbol	MCS	
		Flts	Hrs
E-6 Communications and Operations Check Flight	T3290	1	1.5
Totals		1	1.5

16. Training Time Analysis. In addition to the hours formally planned and scheduled for academic classes, ground training and simulator events, significant additional time to prepare and study outside of scheduled training hours should be expected by the Instructor Under Training (IUT). The amount of time will vary depending on the complexity of the material and individual IUT needs, and may be up to several hours per event. For simulator events, specific brief times

will be programmed into the CNATRA approved Training Management System (TMS) and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME HOURS PER CURRICULUM EVENT			
Training Area	Brief	Debrief	Total
Simulator Events: All	1.0	1.0	2.0

17. Physical Requirements. As specified in the Manual of the Medical Department, Chapter 15, and all applicable anthropometric standards.
18. Obligated Service. Refer to MILPERSMAN for Naval personnel.
19. Preceding Curriculum Data. This curriculum replaces the 1542.173.
20. Primary Instruction Methods. Lecture, Mediated Interactive Lecture (MIL), Computer Aided Instruction (CAI), self and group paced study, and 2B51 Multi-Crew Simulator (MCS) events.
21. IUT Performance Measurement and Application of Standards. The standards outlined in Chapter IX, Course Training Standards (CTS), are used to evaluate performance for all items on all events. Final judgment regarding the satisfactory performance of any item rests with the Standardization Instructor. Refer to CNATRAINST 1500.4L, Chapter 6, for further guidance.

GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 84-89 unless specified by CNATRAINST 1500.4L.
2. Aviation Training Form (ATF). Any form used to document training performance in the Naval Aviation Training Command pipelines (computer generated grade sheets and supplemental administrative documents).
3. Aviation Training Jacket (ATJ). A complete administrative record of all aviation training received while attending flight training at Naval Aviation Training Command (NATRACOM) activities. It contains ATFs, calendar card, grade reports, and all other associated training information. ATJs are maintained in student control and follows the students through all phases of training.
4. Block of Training. A sequential series of lessons within a training stage sharing identical MIFs. The third character in the lesson designator identifies a block.
5. Blue Supplemental ATF. A standard ATF that is printed on blue paper. The blue supplemental ATF is used to denote an Extra Training (ET) event.
6. Check Flight (XX90). A check event in any stage of training. Check flight events shall be coded as XX90, e.g., OPS3290.
7. Class Advisor. An instructor assigned to each class as mentor and advisor to monitor student progress, assist when difficulties arise, and instill the Naval Aviation culture.
8. Commanding Officer Progress Check (CO-PC) (XX89). A special check normally given by the Commanding Officer (CO) or Executive Officer (XO). The CO may designate, in writing, CO-PC duty to a qualified O-4 or above. This is only done if the CO or XO is unqualified or unavailable to instruct in the required stage. A satisfactory CO-PC returns the student to normal syllabus flow. An Unsatisfactory (UNSAT) CO-PC results in a Training Review Board (TRB).
9. Course of Training. The entire program of simulation, academics, and officer development conducted in all media during the programmed training days.
10. Course Training Standard (CTS). CTS define the behavior associated with each maneuver and standards or tolerances recommended for successful stage completion. These standards are defined in Chapter IX.
11. Courseware. The technical data, FTIs, audio, video, film, CAI, MIL, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.

12. Drop on Request (DOR). The self-initiated termination of training. Anytime a student makes a statement such as “I quit” or “DOR,” they shall be immediately removed from the training environment and referred to the training officer for administrative action.
13. Emergency Procedures (EP). An established procedure used by aircrew to assist in safely controlling the aircraft in the event of a flight control failure or airborne emergency.
14. End of Block (EOB). Last event in a block. The student must meet or exceed MIF on all mandatory items in the block to progress past EOB.
15. Event. A scheduled period of prescribed instruction. It may be in an academic or laboratory classroom, a simulator, or flight environment.
16. Extra Training (ET) (XX87). Extra training may be authorized by the squadron Commanding Officer to allow for correction of a training deficiency, or skillset deficiency. ET events shall be coded as XX87, e.g., OPS3187.
17. Flight Training Instruction (FTI). Training publications that define maneuvers and acceptable performance standards for each maneuver the student is expected to perform. Each FTI covers one or more stages of instruction.
18. Hours per Event (H/X). The resourced duration for each event, rounded to the nearest tenth of an hour.
19. Initial Progress Check (IPC) (XX88). A special check performed by the most experienced instructors that have a complete understanding of NATRACOM and PC processes, and understand the gravity of their responsibility in helping maintain the standards of Naval Aviation. An UNSAT IPC results in a CO-PC.
20. Instructor Training Form. A grade sheet documenting IUT performance for all categories of training regardless of media, phase, or stage.
21. Lesson Designator. All syllabus events have a lesson designator consisting of a stage identifier of up to three letters and an event code of four numbers representing order and required resourcing. Refer to the CNATRAINST 1550.6G for further information.

Char	Meaning	Remarks		
1 st - 3 rd	Stage	ADM – Administration CRM – Crew Resource Management OBS – MCS Event Observation Training IGS – Instrument Ground School	FTC – Flight Instructor Training Course MCS – Multi-Crew Simulator	INT – Intermediate E – E-2 P – Maritime Patrol and Reconnaissance T – E-6
4 nd	Media	0 – Ground/Academic Training 1 – Simulator Preparation	2 – CPT 3 – Simulator	
5 th	Block	Sequential, indicating block within stage.		
6 th & 7 th	Event/ Check Identifier	Sequential, indicating event within block, or other event types as shown below: 84 – Adaptation Flight 85 – Practice Sim 86 – Warmup 87 – Extra Training		
			88 – IPC 89 – CO-PC 90 – Check Flight	

22. **Mandatory Item.** Any maneuver coded with a plus sign (+). This symbol indicates the maneuver is required and must be accomplished to the specified standard in that block of training.
23. **Maneuver Item File (MIF).** A chart listing the required maneuvers and associated proficiency levels for a particular block of flight training.
24. **Master Curriculum Guide (MCG).** A publication tailored to a specific phase of training.
25. **Phase of Training.** The chief subdivisions of a course. The Naval Flight Officer training is comprised of Primary, Intermediate and Advanced NFO Training System (NFOTS) phases of training.
27. **Pink ATF.** A standard ATF printed on pink paper. A pink ATF denotes an UNSAT event.
28. **Progress Check (XX88/XX89).** A student check event within a given stage of training administered by an experienced instructor per the CNATRINST 1500.4L.
29. **Progress Check Instructor.** An INFO authorized to administer Initial or Command Directed Progress Checks.

30. Ready Room UNSAT (RRU). An UNSAT grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, or deficient preflight planning or failure of a non-academic examination (e.g., NATOPS quiz/exam). Missing a brief does not constitute an RRU; however, it shall be documented on a supplemental ATF. Refer to CNATRAINST 1500.4L, Ch. 6 for further information on missed briefs.
31. Special Syllabus Requirement (SSR). One-time, ungraded demonstration items. While SSRs are recommended for certain events in block, they may be accomplished at any time during the block.
32. Stage. A subdivision of a phase, comprised of events leading to a single set of objectives, designated by a common symbol (e.g., Fleet Operations, Sensor and Link). Refer to CNATRAINST 1550.6G for further information.
33. Standardization Instructor (SI). A highly experienced INFO designated to provide initial training to IUTs and annual standardization checks to E-2, MPR and E-6 qualified INFOS.
34. Standard Operating Procedure (SOP). An instruction or directive that provides guidance on TRAWING or squadron operating rules.
35. Training Media. Advanced MC2 NFOTS IUT media include ground training, the 2B51 simulator, and associated simulator support lectures. Ground training and simulator support lectures may consist of MILs, off-line lectures (Lect.), CAI lessons, and exams. The first numerical character in the lesson identifier designates the training media. Refer to CNATRAINST 1550.6G for further information.
36. Training Review Board (TRB). A fact-finding board appointed to conduct an administrative review of training following a failed CO-PC. Refer to CNATRAINST 1500.4L for further information.
37. Training Time Out (TTO). A pause in training when a student or Instructor expresses concern for personal safety or a need exists to clarify procedures or requirements. Either the NFS or Instructor may call a TTO.
38. Warmup Event(s) (XX86). Additional event(s) given to allow a student to regain a level of proficiency previously demonstrated which has diminished due to a non-syllabus break in training. Warmup events shall be coded as XX86, e.g., OPS3186.

ABBREVIATIONS

The following is a list of abbreviations used in the curriculum:

ADMIN	-	Administration
AEW	-	Airborne Early Warning
AIC	-	Air Intercept Control
ASI	-	Aviation Student Indoctrination
ATS	-	Aviation Training Summary
BAR	-	Basic Air Work Recognition
CAI	-	Computer Aided Instruction
CI	-	Contract Instructor
CNATRA	-	Chief of Naval Air Training
COMM	-	Communications
CO-PC	-	Commanding Officer Progress Check
CRM	-	Crew Resource Management
CTS	-	Course Training Standard
EOB	-	End of Block
EP	-	Emergency Procedure
EWAO	-	Electronic Warfare and Acoustic Operations
FAM	-	Familiarization
FLTOPS	-	Fleet Operations
FTI	-	Flight Training Instruction
GPS	-	Global Positioning System
H/X	-	Hours per Event

INFO	-	Instructor NFO
INS	-	Inertial Navigation System
INT	-	Intermediate
IOS	-	Instructor Operating Station
ISAR	-	Inverse Synthetic Aperture Radar
ITU	-	Instructor Training Unit
IUT	-	Instructor Under Training
LECT	-	Lecture
MC2	-	Maritime Command and Control
MCS	-	Multi-Crew Simulator
MIF	-	Maneuver Item File
MIL	-	Mediated Interactive Lecture
MILPERSMAN	-	Military Personnel Manual
MPR	-	Maritime Patrol and Reconnaissance
NATOPS	-	Naval Air Training and Operating Procedures Standardization
NAV	-	Navigation
NFO	-	Naval Flight Officer
NG	-	No Grade
OIC	-	Officer in Charge
OM	-	Operations Manual
OPNAV	-	Office of the Chief of Naval Operations
OPS	-	Operations
ORM	-	Operational Risk Management
P/P	-	Pencil and Paper

RADAR	-	Radio Detection and Ranging
SI	-	Standardization Instructor
SNFO	-	Student Naval Flight Officer
SOP	-	Standard Operating Procedure
SS	-	Self-Study
SSLS	-	Surface Search and Littoral Surveillance
SSR	-	Special Syllabus Requirement
TRAWING	-	Training Air Wing
UNSAT	-	Unsatisfactory

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Chapter I

General Instructions

1. Syllabus Management

a. Distribution. Participating TRAWING and squadron personnel.

b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).

c. Deviations. Document all deviations on the event's ATF.

d. Changes. Recommended changes shall be submitted per CNATRAINST 1550.6G

e. Execution. All IUTs Chapters II through VIII.

f. Syllabus Description. Advanced MC2 NFOTS events are executed in the 2B51 Multi-Crew Simulator (MCS) training platform and are divided into stages. Stages are grouped by similar flight training regimes such as Sensor, Link or Fleet Operations. Each stage may be subdivided into training blocks. If so, the training blocks consist of a specified number of events. MIFs identify the minimum acceptable level of performance in relation to the CTS that must be achieved at the completion of each training block.

2. Training Management

a. Syllabus Progression

(1) Other than noted exceptions, syllabus events should be completed sequentially to the max extent possible within each stage. Blocks should not be started without all prerequisites completed. IUTs may be enrolled in different stages simultaneously. IUTs must complete all events unless proficiency advanced by the FITU OIC or TRAWING Commander. System training management is designed to facilitate two graded events (simulator or exam) per IUT per day.

(2) The course flow diagram on page I-9 is a depiction of the Advanced MC2 NFOTS IUT course flow, which delineates the sequence of events and their ground training prerequisites. System training management is designed to facilitate up to two graded events (simulator or exam, or combination thereof) per IUT per day. The course flow diagram on page I-11 is a depiction of the Intermediate MC2 IUT Upgrade course flow and follows the same system training management rules.

(3) The first event in stage must be completed within 14 calendar days of the associated simulator event support lecture. The associated simulator event support lecture must be redone if 14 or more days have elapsed.

(4) The first event in stage cannot be completed the same day as the associated simulator event support lecture(s).

b. Maneuver Continuity. IUTs should be allowed to attempt previously introduced maneuvers frequently enough to maintain required proficiency.

c. Hours per Event (H/X). Instructors shall plan and execute missions to meet H/X as closely as possible. If actual sortie length varies from H/X by more than 0.3 hours, the instructor shall annotate the reason in the ATF general comments section. This only applies to flight events, as simulator events should be conducted for the entire syllabus event H/X stated in the respective MCG. Refer to CNATRINST 1500.4L for further clarification.

d. Location of Training. IUT shall be accomplished at home station.

e. Special Syllabus Requirements. Unless noted otherwise, instructors may accomplish SSRs on any event within the block. Annotate which were completed in the ATF's Maneuver Comments section. Assign NG/1 as the SSR maneuver grade and annotate date of exposure on the SSR tab.

3. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The SI shall carefully review the IUT ATJ when planning the EOB event to ensure the profile includes opportunities to reach MIF on all mandatory items and demonstration items attempted in the block.

(2) Preparation. Students shall arrive for each flight or simulator event with:

(a) A thorough knowledge of:

1. The Discuss Items, as listed in Chapters II-VIII.

2. Procedural knowledge of the mandatory and demonstration items for the event's training block.

(b) An event profile tailored to training requirements, weak areas, and continuity.

(3) Briefing. Thoroughly cover the current mission's:

- (a) Discuss Items, as listed in Chapters II-VIII.
- (b) Specific objectives.
- (c) Techniques and required procedures for accomplishing those objectives.
- (d) Planned profile and contingencies.

(4) Debriefing

(a) After each event, the SI shall critique the IUT's performance using cause/effect analysis, particularly with respect to the CTS.

(b) The mission's complexity and IUT's progress will govern the time required for debrief.

(c) Debriefing must be detailed and comprehensive. The ATF shall be completed prior to the IUT's next event per the CNATRAINST 1500.4L.

b. Emergency Procedures (EP) Briefing and Training. Incorporate EP training into simulator events when practical; however, instructional block objectives take precedence. Grade the IUT's overall EP knowledge and performance under EPs.

4. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. Course training standards and MIFs listed are minimum block completion standards per maneuver. MIF is designed to allow for minimum performance in a specific area, with the understanding that performance in other areas above the minimum MIF, will offset the weak area.

b. Grading Procedures

(1) Absolute Maneuver Grading. The following scale shall be used to document performance on maneuvers attempted during each event. This is an absolute grading scale. It shall be interpreted and used by SIs the same way for all items on all events. IUT performance as referred to in the scale below should be judged only against the CTS provided for a given item in the MCG.

- (a) Demonstrated (NG/1 Level). Enter "No Grade (NG)":

1. When the SI demonstrates the maneuver and the IUT does not subsequently perform it during the event.

2. To indicate accomplishing all SSRs for that block or event. Also, specify completed SSRs in the ATF's maneuver item content line and document date of exposure via the SSR button on the ATF menu bar.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations or aggravate the deviation.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS tolerances, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Performance meets or positively exceeds CTS. Deviations outside CTS tolerances are brief, minor, and do not affect safety of flight. Corrections are appropriate and timely.

(e) Excellent (E/5 Level). Surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. Corrections, if required, are initiated by the IUT and are appropriate, smooth, and timely.

(2) Overall Event Grades. Overall event grades represent the IUT's progression through the syllabus. Every training event shall be marked Pass or Unsatisfactory (UNSAT). Use the following definitions to characterize event grades. See *Awarding Overall Event Grades* for specific rules defining UNSAT performance.

(a) Pass

1. Prior to EOB. Level of performance is generally adequate to meet or exceed levels of expected performance by EOB necessary to continue training.

2. EOB. IUT performance meets or exceeds performance necessary to continue to the next block, stage, or phase training. If the IUT has previously met MIF in the block, they must still meet MIF in the EOB event if the maneuver is reattempted.

(b) UNSAT. IUT exhibits dangerous tendencies or progress toward meeting EOB standards is insufficient. An overall UNSAT is at the SI's discretion. It should be noted that an event may be graded UNSAT without any individual maneuvers graded U/2. If the IUT receives an UNSAT on any event, the ATF shall be printed on pink paper. If an overall UNSAT grade is awarded on any event other than normal syllabus flow events, the SI shall clearly state the justification in the General Comments section of the ATF.

(c) MIF Performance Maintenance. IUTs shall maintain or exceed MIF performance from one block to the next within stage or between media within stage, except as noted below, or when MIF on a subsequent block is below the preceding block MIF.

(3) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus sign (+) are mandatory and the student must meet the required proficiency by EOB. When a maneuver is performed multiple times in a block of training, the last grade assigned for the maneuver will determine if the IUT meets EOB MIF.

(b) Demonstration Items. Items with the number 1, but without a plus (+), are demonstration items. If demonstration items are flown within a block, the IUT must meet the preparation and knowledge requirements to safely attempt them. IUTs may receive a U/2 for a Demonstration Item if they are not adequately prepared, or do not have the requisite knowledge, to perform the item.

(4) Complete and Incomplete Events

(a) An event may both complete a previous event and count as an advancing event.

(b) For events flown exclusively to clear an incomplete, grades on maneuvers repeated from the incomplete event do not count toward the student's score, except where the grade assigned for the repeated item is lower than the lowest grade previously assigned on that item from all previous attempts at that event.

(c) Simulator Event Completion. Assess a simulator event complete if the IUT has received the full training period per the MCG. If required, the simulator event may be conducted for a time period greater than that stated in the MCG. If the actual simulator sortie length is greater than stated H/X by more than 0.3 hours, the instructor shall annotate the reason in the ATF's General Comments section. The simulator event shall not be conducted for a time less than stated in the MCG, unless it is completing a previously incomplete event.

a. Policies for Evaluation Flights and Ground Evaluations

(1) Authorized Evaluators. The CO shall designate Standardization Instructors (SI) for each stage.

(2) Check Event (XX90)

(a) Check events are single-event training blocks. Therefore, all expectations regarding progressing out of a block apply, except:

1. IUT should fly a cross section of Demonstration items (NG/1) after all (+) graded items are adequately performed.

2. The IUT should be able to demonstrate required levels of proficiency without instructor assistance. However, instruction is allowed on check events and IUT may re-attempt maneuvers at the SI's discretion. If the flight profile was incomplete because too much time was dedicated to re-attempting maneuvers, or too much event time utilized for additional training, the item should be graded "U/2" and the flight should be graded UNSAT/incomplete.

3. The entire event duration should be devoted to assessing IUT skill attainment, ability, and readiness to progress to the next block of training. All required maneuvers must be completed to MIF.

(b) Incomplete check event:

1. A check event shall be graded as incomplete when:

a. Any (+) graded item was not flown, or

b. The SI was unable to observe sufficient examples of a given maneuver to assess overall IUT performance. If the flight profile is incomplete because too much time was dedicated to re-attempting maneuvers, or excessive additional training was required, overall event grade should be UNSAT/Incomplete.

2. The subsequent completion flight need only include maneuvers required to complete the check event.

3. Exceptions. The check event is complete and the overall grade is UNSAT if:

a. Any graded item is below expected performance levels needed to succeed in follow-on training, or

b. Any NG/1 item was not adequately prepared for, or required item knowledge was insufficient resulting in a grade of U/2 for the Demonstration item, or

c. The SI determines inadequate performance was demonstrated on any item, or items, that will not predicate successful follow-on normal course flow training.

5. Special Instructions and Restrictions

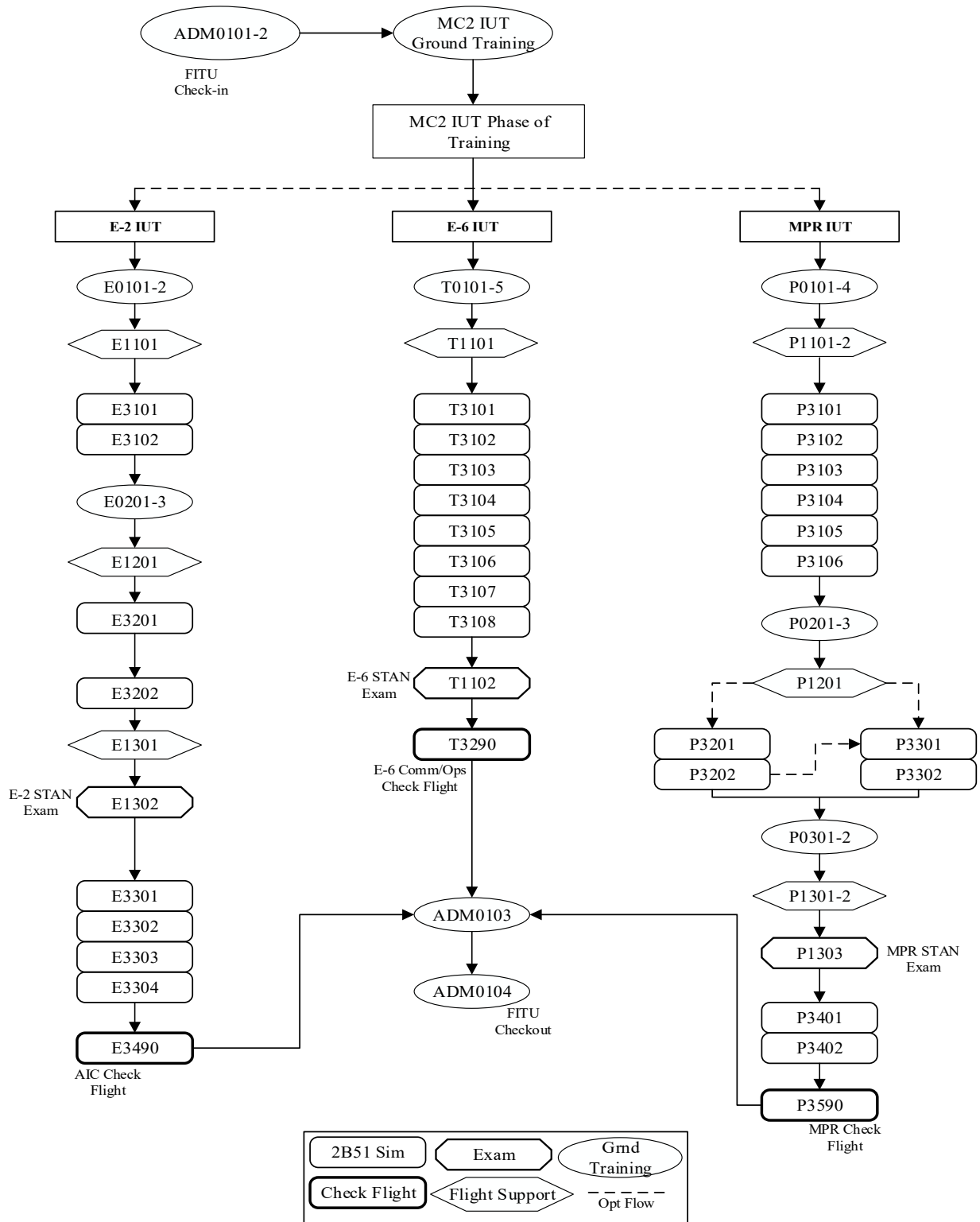
a. Maximum Daily IUT Activities. Schedule limitations for IUTs shall be left to the discretion of the FITU OIC or cognizant Wing Commander, but shall be consistent with CNAF M-3710.7 guidance.

b. IUT Flight Conduct. All IUT events shall be conducted in accordance with the current FTIs and local SOPs.

c. Proficiency Advancement. Reasonable accelerations and decelerations in the curriculum are authorized when warranted by previous experience or demonstrated ability; combination of any two events is authorized. Accelerations of the curriculum require FITU OIC (Proficiency Advance) or TRAWING Commander (Training Acceleration Program) approval and shall be annotated in writing in the ATJ.

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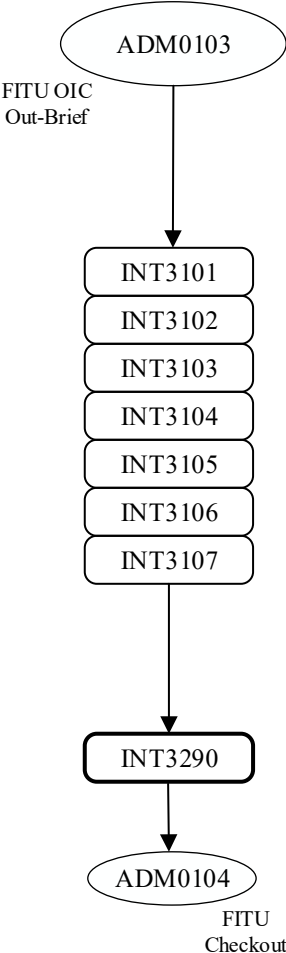
ADVANCED MC2 NFOTS IUT COURSE FLOW



CNATRAINST 1542.173A
12 Dec 2023

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INTERMEDIATE MC2 IUT UPGRADE COURSE FLOW



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Chapter II

IUT Ground Training

Blk #	Media	Title	Events	Hrs	Blk Name
ADM01	Class	Administration	4	4.0	ADMIN

1. Prerequisites

- a. ADM0101 prior to ADM0102.
- b. ADM0102, CRM0101, IGS0102, FTC0103, and E3490 or P3590 or T3290, prior to ADM0103.
- c. ADM0103 and INT3290 prior to ADM0104 (IUT Upgrade).

2. Events

ADM0101	Admin	FITU Check-in		1.0	
ADM0102	Admin	FITU OIC Check-in Brief		1.0	
ADM0103	Admin	FITU OIC Out-Brief		1.0	
ADM0104	Admin	FITU Checkout		1.0	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	Blk Name
CRM01	Class	Crew Resource Management	1	2.0	CRM

1. Prerequisite. ADM0102 prior to CRM0101.

2. Events

CRM0101	LECT	Crew Resource Management		2.0	
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3. Syllabus Notes. CRM0101 is required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	Blk Name
IGS01	Class/ Exam	Instrument Ground School (IGS)	2	6.0	IGS

1. Prerequisite. ADM0102 prior to IGS0101-2 (in order).

2. Events

IGS0101	Lect	Instrument Ground School		4.0	
IGS0102	P/P Exam	Instrument Ground School Exam		2.0	

3. Syllabus Notes. IGS0101-2 are required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	Blk Name
FTC01	Class	CNATRA Flight Instructor Training Course (FITC)	3	24.0	FITC

1. Prerequisite. ADM0102 prior to FTC0101-3 (in order).

2. Events

FTC0101	MIL	FITC Day 1		8.0
FTC0102	MIL	FITC Day 2		8.0
FTC0103	Lect	FITC Day 3		8.0

3. Syllabus Notes. FTC0101-3 are required prior to designation as a NATRACOM flight instructor. For those IUTs who have previously attended FITC and are returning to NATRACOM, Day 3 shall be attended, at a minimum.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	Blk Name
MCS01	Class/ 2B51	MCS Familiarization	7	14.5	MCS

1. Prerequisites

- a. ADM0102 and CRM0101 prior to MCS0101-5 (any order).
- b. MCS0101-5 prior to MCS0106-7 (in order).

2. Events

MCS0101	MIL	MCS Ops Manual Overview		2.0
MCS0102	MIL	MCS System Failures and Emergency Procedures		2.0
MCS0103	MIL	MCS Crew Resource Management		2.0
MCS0104	MIL	MCS Operational Risk Management		1.0
MCS0105	MIL	Introduction to the MCS Capabilities, Procedures, and Crew Interface		2.0
MCS0106	P/P Exam	MCS EP Boldface Procedures Exam		1.0
MCS0107	Lab/2B51	MCS Device Introduction and Familiarization (FAM-0)		4.5

3. Syllabus Notes

a. The IUT will accomplish or simulate the following items during MCS0107: device familiarization (identify all electronic displays and functions), checklist procedures, and malfunction and emergency procedures.

b. MCS0104 and MCS0106 are required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. Briefing and debriefing requirements, MCS checklists and procedures, malfunctions and emergency procedures, and MCS crew resource management utilization.

Blk#	Media	Title	Events	Hrs	Blk Name
OBS01	2B51	MCS Event Observation	3	10.5	OBS

1. Prerequisite. MCS0107 prior to OBS0101-3 (any order).

2. Events

OBS0101	2B51	MCS Nav/Fam Event Observation		3.5	
OBS0102	2B51	MCS Sensor or Link Event Observation		3.5	
OBS0103	2B51	MCS Fleet Ops Event Observation		3.5	

3. Syllabus Notes. A stage qualified contract instructor shall conduct the student event. The IUT shall attend the event brief, monitor the MCS event from the IOS, and attend the debrief.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
E01	Class	Airborne Early Warning	2	7.0	AEW1

1. Prerequisite. OBS0101-3 prior to E0101-2 (in order).

2. Events

E0101	MIL	AEW Procedures Lab		4.0	
E0102	MIL	AEW Exam Review		3.0	

3. Syllabus Notes. These events corresponds to the Advanced E-2 NFOTS (1542.181 series) events with the same course title.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
E02	Class	Air Intercept Control (AIC)	3	10.0	AIC1

1. Prerequisite. E3102 prior to E0201-3 (in order).

2. Events

E0201	MIL	AIC Comm and Tactics/Timeline		6.0	
E0202	MIL	Strike Techniques		2.0	
E0203	MIL	AIC Exam Review		2.0	

3. Syllabus Notes. These events corresponds to the Advanced E-2 NFOTS (1542.181 series) events with the same course title.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
P01	Class	Surface Search and Littoral Surveillance	4	8.0	SSLS

1. Prerequisites

a. OBS0101-3 prior to P0101-3 (any order).

b. P0101-3 prior to P0104.

2. Events

P0101	MIL	Surface Search Sensor Employment and Procedures	2.0
P0102	MIL	Littoral Surveillance Sensor Employment and Procedures	2.0
P0103	MIL	Mission Log Keeping	1.5
P0104	MIL	SSLS Exam Review	2.5

3. Syllabus Notes. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
P02	Class	Electronic Warfare and Acoustic Operations	3	7.0	EWA2

1. Prerequisite. P3106 prior to P0201-3 (in order).

2. Events

P0201	CAI	ESM and Emitter Collection Fundamentals		2.0
P0202	MIL	Acoustic Sensor Employment and Terminology		2.0
P0203	MIL	EWAO Exam Review		3.0

3. Syllabus Notes. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
P03	Class	Maritime Patrol and Reconnaissance	2	5.0	MPR1

1. Prerequisites. P3202 and P3302 prior to P0301-2 (in order).

2. Events

P0301	MIL	MPR Coordinated Operations Overview	2.0
P0302	MIL	MPR Exam Review	3.0

3. Syllabus Notes. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
T01	Class	E-6 Communications and Operations	5	10.0	COMOPS1

1. Prerequisites. OBS0101-3 prior to T0101-5 (in order).

2. Events

T0101	MIL	E-6 Communications Overview	2.0
T0102	MIL	E-6 Operational Considerations	2.0
T0103	MIL	Electromagnetic Wave/Radio Propagation	2.0
T0104	MIL	Transmission Control Protocol/Internet Protocol Fundamentals	2.0
T0105	MIL	Allied Communications Publication Message Formatting	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Chapter III

NATOPS Training

This chapter does not apply to the Advanced MC2 NFOTS IUT phase of training.

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Chapter IV

Advanced E-2 IUT Training

1. General. The IUT shall observe, execute, and instruct, all simulator events in this stage under the supervision of an Advanced E-2 NFOTS Standardization Instructor (SI).
2. Matrices. The following matrices are an overview of the Advanced E-2 IUT simulator training. The purpose of these matrices is to provide the IUT and SI with the easiest way to track progress and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

Blk#	Media	Title	Events	Hrs	Blk Name
E11	Class	Airborne Early Warning Simulator Preparation	1	4.0	AEW3

1. Prerequisite. E0102 prior to E1101.

2. Events

E1101	MIL	AEW Simulator Preparation	4.0
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3. Syllabus Notes. This event corresponds to the Advanced E-2 NFOTS (1542.181 series) event with the same ID.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
E31	2B51	Airborne Early Warning	2	3.0	1.5

1. Prerequisite. E1101 prior to E3101-2 (in order).
2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	E-2 SNFO Event	Description
E3101	Observe	E3105-6	AEW Composite
E3102	Instruct	E3105-6	AEW Composite

3. Syllabus Notes. The E3102 event shall be conducted by the IUT under the supervision of an S qualified E-2 INFO.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced E-2 NFOTS MCG (1542.181 series) or applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	E3102
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
10	Equipment Operation	4+
12	Air-to-Air Radar Utilization	4+
15	Data Link Utilization	4+
17	Battle Space Management	4+

MIF continued on next page.

CTS REF	MANEUVER	E3102
22	Checklists	4+
24	Tactical Radio Procedures	4+
27	Scan	4+
28	AEW Manual Tracking	4+
29	AEW Near Collision Intercepts	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	Blk Name
E12	Class	Air Intercept Control (AIC) Simulator Preparation	1	3.0	AIC2

1. Prerequisite. E0203 prior to E1201.

2. Events

E1201	MIL	AIC Simulator Preparation	3.0
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
E32	2B51	Air Intercept Control 1	2	3.0	1.5

1. Prerequisites

- a. E1201 prior to E3201.
- b. E3201 prior to E3202.

2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	E-2 SNFO Event	Description
E3201	Observe	Any E3201-5	AIC
E3202	Instruct	Any E3201-5	AIC

3. Syllabus Notes. The E3202 event shall be conducted by the IUT under the supervision of an S qualified E-2 INFO.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Advanced E-2 NFOTS MCG (1542.181 series) for applicable discuss items for the student event being conducted.

6. Block MIF

CTS REF	MANEUVER	E3202
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
10	Equipment Operation	4+
12	Air-to-Air Radar Utilization	4+

MIF continued on next page.

CTS REF	MANEUVER	E3202
15	Data Link Utilization	4+
17	Battle Space Management	4+
18	Threat Recognition	4+
19	Search and Rescue	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
25	Mission Ownership	4+
26	Prioritization	4+
27	Scan	4+
28	AEW Manual Tracking	4+
30	On-Station Air Defense	4+
31	Air Intercept Control	4+
32	Strike	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	Blk Name
E13	Class/ Exam	Tactical Crew Coordination (TCC) Simulator Preparation	2	4.0	TCC1

1. Prerequisite. E3202 prior to E1301-2 (in order).

2. Events

E1301	MIL	TCC Simulator Preparation	3.0
E1302	P/P Exam	E-2 Standardization Exam	1.0

3. Syllabus Notes. E1302 is required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
E33	2B51	Air Intercept Control 2	4	6.0	1.5

1. Prerequisites

- a. E1302 prior to E3301-3 (any order).
- b. E3301-3 prior to E3304.

2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	E-2 SNFO Event	Description
E3301	Observe	E3206	Strike
E3302	Observe	E3207-8	OAS
E3303	Observe	E3209	Dual Lane AIC
E3304	Instruct	E3209-11	Advanced AIC

3. Syllabus Notes. The E3304 event shall be conducted by the IUT under the supervision of an S qualified E-2 INFO.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Advanced E-2 NFOTS MCG (1542.181 series) for applicable discuss items for the student event being conducted.

6. Block MIF

CTS REF	MANEUVER	E3304
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
10	Equipment Operation	4+

MIF continued on next page.

CTS REF	MANEUVER	E3304
12	Air-to-Air Radar Utilization	4+
15	Data Link Utilization	4+
17	Battle Space Management	4+
18	Threat Recognition	4+
19	Search and Rescue	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
25	Mission Ownership	4+
26	Prioritization	4+
27	Scan	4+
28	AEW Manual Tracking	4+
30	On-Station Air Defense	4+
31	Air Intercept Control	4+
32	Strike	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	H/X
E34	2B51	Air Intercept Control Check Flight	1	1.5	1.5

1. Prerequisite. E3304 prior to E3490.
2. Events. The IUT will complete this event as follows:

IUT Event	IUT Role	E-2 SNFO Event	Description
E3490	Instruct	E3201-5	AIC

3. Syllabus Notes.
 - a. The E3490 event shall be conducted by the IUT under the supervision of an S qualified E-2 INFO.
 - b. The E3490 is required to fulfill initial training and annual INFO currency requirements.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced E-2 NFOTS MCG (1542.181 series) for applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	E3490
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
48	Flight Instruction/Detect and Correct Student Errors	4+

MIF continued on next page.

CTS REF	MANEUVER	E3490
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Chapter V

Advanced MPR NFOTS IUT Training

1. General. The IUT shall observe, execute, and instruct, all simulator events in this stage under the supervision of an Advanced MPR NFOTS Standardization Instructor (SI).
2. Matrices. The following matrices are an overview of the Advanced MPR IUT simulator training. The purpose of these matrices is to provide the IUT and SI with the easiest way to track progress and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

Blk#	Media	Title	Events	Hrs	Blk Name
P11	Class	Surface Search and Littoral Surveillance Simulator Preparation	2	4.5	SSLS2

1. Prerequisite. P0104 prior to P1101-2 in any order.

2. Events

P1101	CAI	MCS ISAR Identification		1.0	
P1102	MIL	SSLS Simulator Preparation		3.5	

3. Syllabus Notes. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
P31	2B51	Surface Search and Littoral Surveillance	6	9.0	1.5

1. Prerequisite. P1101-2 prior to P3101-6 (in order).
2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	MPR SNFO Event	Description
P3101	Observe	P3101-8	SSLS
P3102	Instruct	P3101-8	SSLS
P3103	Instruct	P3101-8	SSLS
P3104	Observe	P3101-8	SSLS
P3105	Instruct	P3101-8	SSLS
P3106	Instruct	P3101-8	SSLS

3. Syllabus Notes

a. Emphasize Surface Search on P3101-3 and Littoral Surveillance on P3104-6.

b. The P3102, P3203, P3105 and P3106 events shall be conducted by the IUT under the supervision of an S qualified MPR INFO.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Advanced MPR NFOTS MCG (1542.182 series) for applicable discuss items for the student event being conducted.

6. Block MIF

CTS REF	MANEUVER	P3106
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+

MIF continued on next page.

CTS REF	MANEUVER	P3106
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management\Crew Coordination	4+
8	On-Station/Check-In Procedures	4+
9	On-Station Navigation	4+
10	Equipment Operation	4+
11	Air/Ground Radar Utilization	4+
13	Electro-Optical/Infrared Utilization	4+
15	Data Link Utilization	4+
17	Battle Space Management	4+
19	Search and Rescue	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
26	Prioritization	4+
27	Scan	4+
33	Operational Charts	4+
34	Terrain Avoidance/Standoffs	4+
36	ISAR Utilization	4+
37	Surface Search	4+
38	SAR Utilization	4+
39	Littoral Surveillance	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	Blk Name
P12	Class	Electronic Warfare and Acoustic Operations Simulator Preparation	1	3.5	EWAO2

1. Prerequisite. P0203 prior to P1201.

2. Events

P1201	MIL	EWAO Simulator Preparation	3.5
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3. Syllabus Notes. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
P32	2B51	Electronic Warfare	2	3.0	1.5

1. Prerequisite. P1201 prior to P3201-2 (in order).
2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	MPR SNFO Event	Description
P3201	Observe	P3201-2	Electronic Warfare
P3202	Instruct	P3201-2	Electronic Warfare

3. Syllabus Notes. The P3202 event shall be conducted by the IUT under the supervision of an S qualified MPR INFO.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced MPR NFOTS MCG (1542.182 series) for applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	P3202
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
8	On-Station/Check-In Procedures	4+
10	Equipment Operation	4+
14	ESM Utilization	4+

MIF continued on next page.

CTS REF	MANEUVER	P3202
15	Data Link Utilization	4+
16	Electronic Warfare	4+
17	Battle Space Management	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
26	Prioritization	4+
27	Scan	4+
33	Operational Charts	4+
39	Littoral Surveillance	4+
40	Signal Collection	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	H/X
P33	2B51	Acoustic Operations	2	3.0	1.5

1. Prerequisite. P1201 prior to P3301-2 (in order).
2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	MPR SNFO Event	Description
P3301	Observe	P3301-3	Acoustic Operations
P3302	Instruct	P3301-3	Acoustic Operations

3. Syllabus Notes. The P3302 event shall be conducted by the IUT under the supervision of an S qualified MPR INFO.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced MPR NFOTS MCG (1542.182 series) for applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	P3302
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
8	On-Station/Check-In Procedures	4+
10	Equipment Operation	4+
15	Data Link Utilization	4+

MIF continued on next page.

CTS REF	MANEUVER	P3302
17	Battle Space Management	4+
20	Off-Station/Turnover	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
26	Prioritization	4+
27	Scan	4+
33	Operational Charts	4+
41	Environmental Data Collection	4+
42	Acoustic Tracking	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	Blk Name
P13	Class/ Exam	Maritime Patrol and Reconnaissance (MPR) Simulator Preparation	3	6.5	MPR2

1. Prerequisite. P0302 prior to P1301-3 (in order).

2. Events

P1301	MIL	MPR CRM and Multitasking		2.0
P1302	MIL	MPR Simulator Preparation		3.5
P1303	P/P Exam	MPR Standardization Exam		1.0

3. Syllabus Notes

a. These events corresponds to the Advanced MPR NFOTS (1542.182 series) events with the same course title.

b. P1303 is required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
P34	2B51	Maritime Patrol and Reconnaissance (MPR)	2	6.0	3.0

1. Prerequisite. P1303 prior to P3401-2.
2. Events. The IUT will complete these events as follows:

IUT Event	IUT Role	MPR SNFO Event	Description
P3401	Observe	Any P3401-3 or P3590 (preferred)	MPR
P3402	Instruct	Any P3401-3	MPR

3. Syllabus Notes. The P3302 event shall be conducted by the IUT under the supervision of an S qualified MPR INFO.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced MPR NFOTS MCG (1542.182 series) for applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	P3402
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
8	On-Station/Check-In Procedures	4+
9	On-Station Navigation	4+
10	Equipment Operation	4+
11	Air/Ground Radar Utilization	4+

MIF continued on next page.

CTS REF	MANEUVER	P3402
13	Electro-Optical/Infrared Utilization	4+
14	ESM Utilization	4+
15	Data Link Utilization	4+
16	Electronic Warfare	4+
17	Battle Space Management	4+
18	Threat Recognition	4+
20	Off-Station/Turnover	4+
22	Checklists	4+
24	Tactical Radio Procedures	4+
25	Mission Ownership	4+
26	Prioritization	4+
27	Scan	4+
33	Operational Charts	4+
34	Terrain Avoidance/Standoffs	4+
35	Operational Record Keeping	4+
36	ISAR Utilization	4+
37	Surface Search (MPR)	4+
38	SAR Utilization	4+
39	Littoral Surveillance	4+
40	Signal Collection	4+
41	Environmental Data Collection	4+
42	Acoustic Tracking	4+
43	Coordinated Operations	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	H/X
P35	2B51	MPR Check Flight	1	1.5 or 3.0	See Syl Note.

1. Prerequisite. P3402 prior to P3590.
2. Events. The IUT will complete this event as follows:

IUT Event	IUT Role	MPR SNFO Event	Description
P3590	Instruct	Any P3201-2, P3301-3 or P3401-3	MPR

3. Syllabus Notes
 - a. The event duration is dependent upon the student MPR event being conducted.
 - b. The P3590 event shall be conducted by the IUT under the supervision of an S qualified MPR INFO.
 - c. The P3590 is required to fulfill initial training and annual INFO currency requirements.
4. Special Syllabus Requirements. None.
5. Discuss Items. Refer to the Advanced MPR NFOTS MCG (1542.182 series) for applicable discuss items for the student event being conducted.
6. Block MIF

CTS REF	MANEUVER	P3590
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+

MIF continued on next page.

CTS REF	MANEUVER	P3590
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Chapter VI

Advanced E-6 NFOTS IUT Training

1. General. The IUT shall observe, execute, and instruct, all simulator events in this stage under the supervision of an Advanced E-6 NFOTS Standardization Instructor (SI).
2. Matrices. The following matrices are an overview of the Advanced E-6 IUT simulator training. The purpose of these matrices is to provide the IUT and SI with the easiest way to track progress and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

Blk#	Media	Title	Events	Hrs	H/X
T11	Class/ Exam	E-6 Communications and Operations Simulator Preparation	2	4.0	COMOPS2

1. Prerequisite. T0105 prior to T1101-2 (in order).

2. Events

T1101	MIL	E-6 Communication and Operations Simulator Preparation		3.0	
T1102	P/P Exam	E-6 Standardization Exam		1.0	

3. Syllabus Notes. T1102 is required to fulfill initial training and annual INFO currency requirements.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
T31	2B51	E-6 Communications and Operations	8	21.0	See Syl Notes.

1. Prerequisites

- a. T1101 prior to T3101-2 (in any order) and T3105-6 (in any order).
- b. T3101-2 prior to T3103-4 (in any order).
- c. T3105-6 prior to T3107-8 (in any order).

2. Events. The IUT will complete events as follows:

IUT Event	IUT Role	E-6 SNFO Event	Description
T3101	Observe	Any T3101-3	E-6 Comm and Ops
T3102	Observe	Any T3104-5	E-6 Comm and Ops
T3103	Instruct	Any T3101-3	E-6 Comm and Ops
T3104	Instruct	Any T3104-5	E-6 Comm and Ops
T3105	Observe	Any T3201-4	E-6 Comm and Ops
T3106	Observe	Any T3205-6	E-6 Comm and Ops
T3107	Instruct	Any T3201-4	E-6 Comm and Ops
T3108	Instruct	Any T3205-6	E-6 Comm and Ops

3. Syllabus Notes

- a. Allow 1.5 H/X for IUT events T3101 and T3103.
- b. Allow 3.0 H/X for IUT events T3102 and T3104-8.
- c. The T3103, T3104, T3107 and T-3108 events shall be conducted by the IUT under the supervision of an S qualified E-6 INFO.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Advanced E-6 NFOTS MCG (1542.183 series) for applicable discuss items for the student event being conducted.

5. Block MIF

CTS REF	MANEUVER	T3108
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
10	Equipment Operation	4+
22	Checklists	4+
23	Fuel Management/Analysis	4+
24	Tactical Radio Procedures	4+
25	Mission Ownership	4+
26	Prioritization	4+
27	Scan	4+
44	E-6 Equipment Utilization	4+
45	E-6 Communications	4+
46	E-6 Operations	4+
47	Aerial Refueling	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	H/X
T32	2B51	E-6 Communications and Operations Check Flight	1	1.5 or 3.0	1.5 or 3.0

1. Prerequisites. T1102, and T3103-4, and T3107-8, prior to T3290.

2. Events. The IUT will complete this event as follows:

IUT Event	IUT Role	E-6 SNFO Event	Description
T3290	Instruct	Any T3201-6 event	E-6 Comm and Ops

3. Syllabus Notes

a. The T3290 event shall be conducted by the IUT under the supervision of an S qualified E-6 INFO.

b. T3290 is required to fulfill initial training and annual INFO currency requirements.

c. H/X for this event can be a 1.5 or a 3.0, depending on which T32 block event the IUT completes.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Advanced E-6 NFOTS MCG (1542.183 series) for applicable discuss items for the student event being conducted.

6. Block MIF

CTS REF	MANEUVER	T3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+

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CTS REF	MANEUVER	T3290
7	Crew Resource Management/Crew Coordination	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Chapter VII

Intermediate MC2 Simulator Instructor IUT Upgrade Training

1. General. The IUT shall observe, execute, and instruct, all simulator events in this stage under the supervision of a qualified Intermediate MC2 NFOTS Contract Instructor Services Contract Instructor (CI).
2. Matrices. The following matrices are an overview of the Intermediate MC2 Simulator Instructor IUT simulator training. The purpose of these matrices is to provide the IUT and CI with the easiest way to track progress and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

Blk#	Media	Title	Events	Hrs	H/X
INT31	2B51	Intermediate MC2 Simulator Instructor Upgrade	7	10.5	1.5

1. Prerequisites

- a. ADM0101 prior to INT3101, INT3103, INT3105 and INT3107 (in any order).
- b. INT3101 prior to INT3102.
- c. INT3103 prior to INT3104.
- d. INT3105 prior to INT3106.

2. Events. The IUT will complete events as follows:

IUT Event	IUT Role	Int MC2 SNFO Event	Description
INT3101	Observe	Any NAV3101-4	Navigation Fam
INT3102	Instruct	Any NAV3101-4	Navigation Fam
INT3103	Observe	Any SEN3101-5	Sensor Operations
INT3104	Instruct	Any SEN3101-5	Sensor Operations
INT3105	Observe	Any SEN3201-3	Link Operations
INT3106	Instruct	Any SEN3201-3	Link Operations
INT3107	Observe	Any OPS3101-6	Fleet Operations

3. Syllabus Notes. INT3102, INT3104 and INT3106 Instruct events shall be conducted by the IUT under the supervision of a stage qualified CI.

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Intermediate MC2 NFOTS MCG (1542.180 series) for applicable discuss items for the student event being conducted.

6. Block MIF

CTS REF	MANEUVER	INT3107
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
48	Flight Instruction/Detect and Correct Student Errors	4+
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

Blk#	Media	Title	Events	Hrs	H/X
INT32	2B51	Intermediate MC2 Simulator Instructor Upgrade Check Flight	1	1.5	1.5

1. Prerequisite. INT3107 prior to INT3290.

2. Events. The IUT will complete this event as follows:

IUT Event	IUT Role	Int MC2 SNFO Event	Description
INT3290	Instruct	Any OPS3101-6	Fleet Operations

3. Syllabus Notes.

a. The INT3290 event shall be conducted by the IUT under the supervision of a stage qualified CI.

b. INT3290 is required to fulfill initial training and annual INFO currency requirements

4. Special Syllabus Requirements. None.

5. Discuss Items. Refer to the Intermediate MC2 NFOTS MCG (1542.180 series) for applicable discuss items for the student event being conducted.

6. Block MIF.

CTS REF	MANEUVER	INT3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work Recognition	4+
5	Mission Planning	4+
6	Briefing	4+
7	Crew Resource Management/Crew Coordination	4+
48	Flight Instruction/Detect and Correct Student Errors	4+

MIF continued on next page.

CTS REF	MANEUVER	INT3290
49	Instructional Assistance	4+
50	Aviation Training Jacket Review	4+
51	Grading	4+
52	Debriefing	4+

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Chapter VIII

Tactical Training

This chapter does not apply to the Advanced MC2 NFOTS IUT phase of training.

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Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of Advanced MC2 IUTs during initial training and INFO requalification training.

2. IUT Duties and Responsibilities

a. Plan the mission.

b. Help the student operate the simulator or simulator systems, as applicable, to accomplish the mission using sound judgment and airmanship.

c. Operate the 2B51 simulator to accomplish the mission.

3. General Standards

a. “Standard” equates to **good** (G/4).

b. Unless otherwise specified, use **Basic Air Work Recognition (BAR)** standards for all items with altitude, airspeed, or heading parameters.

c. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.

d. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from **Mission Planning** apply.

4. Execution. The MIF regulates student progression to meet required standards prior to phase completion. Standardization Instructors shall evaluate IUT performance against these standards.

5. Job Tasks. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
Graded Item	
● A brief description of the behavior, required action, and/or conditions.	● The specific standards for the action. May be read as “The IUT...”

6. Graded Items. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these universally graded items are listed first followed by the Course Training Standards unique to each stage.

7. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
<ul style="list-style-type: none"> ● Maintain working knowledge of all appropriate flight training instructions and directives. 	<ul style="list-style-type: none"> ● Recites, discusses, and/or performs all applicable items per the FTI and essential to the operation of the aircraft and completion of the mission. ● Demonstrates knowledge of the student master curriculum guide and CNATRAINST 1500.4L.
2. Emergency Procedures	
<ul style="list-style-type: none"> ● Maintain in-depth knowledge of emergency procedures and appropriate directives. 	<ul style="list-style-type: none"> ● Correctly analyzes situation and provides the proper course of action. ● Performs/recites critical action steps from memory, with 100 percent accuracy. ● Uses correct checklist when appropriate and conditions permit. ● Completes procedures in a timely manner. ● Correctly prioritizes tasks to include aviation, navigation, communication, and checklists.
3. Headwork/Situational Awareness	
<ul style="list-style-type: none"> ● Comply with the FTI while maintaining situational awareness sufficient for flight safety and mission completion. 	<ul style="list-style-type: none"> ● Understands instructions, demonstrations, and explanations. ● Foresees and avoids possible difficulties. ● Remains alert and spatially oriented.
4. Basic Air Work Recognition	
<ul style="list-style-type: none"> ● Comply with the FTI and MCS Operating Manual while maintaining SA per the safety-of-flight and mission objectives. 	<ul style="list-style-type: none"> ● Monitors aircraft within ± 100 feet of assigned or directed altitude. ● Monitors aircraft within ± 10 knots of assigned or directed airspeed. ● Monitors aircraft within $\pm 5^\circ$ of assigned or directed heading.

BEHAVIOR STATEMENT	STANDARDS
4. Basic Air Work Recognition (cont.)	
	<ul style="list-style-type: none"> ● Recognizes deviations within 30 seconds and immediately directs corrections upon recognition.
5. Mission Planning	
<ul style="list-style-type: none"> ● Perform mission planning with mission specific data. 	<ul style="list-style-type: none"> ● Uses required directives and forms. ● Plans mission to meet all mission requirements. ● Completes all forms with 100 percent accuracy. ● Complies with all applicable directives.
6. Briefing	
<ul style="list-style-type: none"> ● Review student mission brief, objectives, and conduct. 	<ul style="list-style-type: none"> ● Provides meaningful discussion of administration and mission procedures. ● Contributes experience to briefing items. ● Ensures applicable procedures are understood by student. ● Ensures student covers all pertinent information in the briefing guide.
7. Crew Resource Management/Crew Coordination	
<ul style="list-style-type: none"> ● Use available crew and cockpit resources to minimize workload and enhance situational awareness. ● Effective communication of mission essential information, and interaction between crew members. 	<ul style="list-style-type: none"> ● Effectively utilizes seven key skills of CRM throughout all portions of flight training. ● Delegates cockpit tasks as appropriate. ● Makes timely recommendations to maintain flight parameters through all regimes of flight. ● Uses appropriate interaction between crewmembers with regard to normal aircraft procedures. ● Uses SA building communication.

BEHAVIOR STATEMENT	STANDARDS
8 On-Station/Check-In Procedures	
<ul style="list-style-type: none"> ● Directs/performs on-station and check-in procedures during ingress to the operations area with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Activates mission sensors per the mission tasking brief. ● Directs and performs proper ingress procedures per the mission tasking brief. ● Completes on-station checklist before entering the operations area. ● Properly assesses mission equipment status. ● Communicates with the controlling authority per the checklists and mission tasking brief. ● Directs/performs mission tasking updates received from the controlling authority.
9. On-Station Navigation	
<ul style="list-style-type: none"> ● Directs/performs on-station navigation with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Maintains aircraft inside surface search operating area. ● Maintains safe distance from standoffs to include land, weapons, and ships. ● Maintains terrain avoidance. ● Updates/validates planned time and fuel computations as required to safely and efficiently accomplish the mission. ● Executes operations normal reports as required.
10. Equipment Operation	
<ul style="list-style-type: none"> ● Directs/performs equipment operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions and locates equipment to include the TACAN, INS, GPS, FMS, flight instruments, and computer display. ● Properly operates all functions and locates equipment to include the ICS, V/UHF, HF, and SATCOM. ● Monitors the status of the TACAN and acknowledges degradations within five minutes of the malfunction. ● Properly troubleshoots all TACAN malfunctions. ● Monitors the status of the GPS and acknowledges degradations within five minutes of the malfunction. ● Properly troubleshoots all GPS malfunctions.

BEHAVIOR STATEMENT	STANDARDS
10. Equipment Operation (cont.)	
	<ul style="list-style-type: none"> ● Monitors the status of the INS and acknowledges degradations within five minutes of the malfunction. ● Properly troubleshoots all INS malfunctions. ● Monitors the status of the ICS and radios and acknowledges degradations within five minutes of the malfunction. ● Properly troubleshoots all ICS and radios malfunctions.
11. Air/Ground Radar Utilization	
<ul style="list-style-type: none"> ● Directs/performs/air/ground radar operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the air/ground radar equipment. ● Utilizes the proper radar horizon to allow for an effective air/ground radar plot. ● Properly operates the air/ground radar equipment to determine ground features. ● Properly operates the air/ground radar equipment to identify, assess, and avoid weather hazards. ● Properly operates the air/ground radar equipment to effectively plot surface contacts. ● Monitors the status of the air/ground radar and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all air/ground radar malfunctions.
12. Air-to-Air Radar Utilization	
<ul style="list-style-type: none"> ● Directs/performs air-to-air radar operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the air-to-air radar equipment. ● Utilizes the proper radar horizon to allow for an effective air-to-air radar plot. ● Properly operates the air-to-air radar equipment to determine targets. ● Monitors the status of the air-to-air radar and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all air-to-air radar malfunctions.

BEHAVIOR STATEMENT	STANDARDS
13. Electro-Optical/Infrared Utilization	
<ul style="list-style-type: none"> ● Directs/performs EO/IR operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the EO/IR equipment. ● Properly operates the EO/IR equipment to determine static and dynamic contacts. ● Monitors the status of the EO/IR equipment and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all EO/IR equipment malfunctions.
14. ESM Utilization	
<ul style="list-style-type: none"> ● Directs/performs ESM operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the ESM equipment. ● Properly operates the ESM equipment to evaluate the emitter type and platform location/association ● Monitors the status of the ESM equipment and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all ESM equipment malfunctions.
15. Data Link Utilization	
<ul style="list-style-type: none"> ● Directs/performs data link operations with the aid of checklists, appropriate messages, and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the data link equipment. ● Describes all nomenclature as it pertains to data link employment. ● Properly operates the data link equipment to transmit and/or receive sensor contacts. ● Inserts sensor contacts into the data link within five minutes of request. ● Monitors status of the data link and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all data link malfunctions.

BEHAVIOR STATEMENT	STANDARDS
16. Electronic Warfare	
<ul style="list-style-type: none"> ● Directs/performs EW procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Correlates EW information with other sensors. ● Prioritizes EW contacts with regard to importance and threat. ● Adjusts aircraft altitude and position for optimal EW reception. ● Clearly and concisely communicates EW threat data to friendly assets utilizing brevity.
17. Battle Space Management	
<ul style="list-style-type: none"> ● Directs/performs battle space management procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Correctly analyzes the tactical situation. ● Demonstrates effective time management. ● Maintains positional awareness with friendly assets. ● Performs and prioritizes transmissions in a multiple communications environment. ● Executes proper Rules of Engagement (ROE) procedures. ● Properly utilizes friendly assets within respective capabilities.
18. Threat Recognition	
<ul style="list-style-type: none"> ● Directs/performs threat recognition upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Conducts proper self-defense procedures by properly positioning the aircraft to counter threats. ● Performs and utilizes aircraft capabilities and limitations for the most advantageous method to counter a threat. ● Directs the proper search strategy to identify threats. ● Conducts proper analysis of a threat. ● Directs the proper threat localization strategy. ● Directs the proper threat tracking strategy. ● Directs the proper threat attack strategy per the ROE. ● Directs friendly assets to optimal positioning to counter threats. ● Determines status/condition of attacked target. ● Conducts proper BDA procedures.

BEHAVIOR STATEMENT	STANDARDS
19. Search and Rescue	
<ul style="list-style-type: none"> ● Directs/performs Search and Rescue procedures with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Determines the best known position of the missing entity utilizing all available information to include parachute drift if applicable. ● Determines the proper search altitude based on the type of missing asset, environment, and the best sensor available. ● Determines the proper search pattern based on the missing asset information and environment. ● Directs the proper search strategy. ● Directs search assets to the scene. ● Optimizes search sensors of all participating units. ● Executes appropriate Search and Rescue reports when required.
20. Off-Station/Turnover	
<ul style="list-style-type: none"> ● Directs/performs off-station and turnover procedures during egress from the operations area with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Directs/performs proper egress procedures per the mission tasking brief. ● Completes off-station checklist during the exit from the operations area. ● Communicates with the controlling authority and passes turnover to the relieving unit (if applicable) per checklists and mission-tasking brief.
21. Approach	
<ul style="list-style-type: none"> ● Monitors the aircraft as needed to properly comply with the published procedures of an approach. 	<ul style="list-style-type: none"> ● Complies with published approach procedures and controller instructions; efficiently makes use of all onboard navigational equipment to maximize SA. ● Briefs missed approach or climb-out instructions prior to MAP/DA. ● Conducts appropriate CRM with flight station.
22. Checklists	
<ul style="list-style-type: none"> ● Completes mission specific checklists. 	<ul style="list-style-type: none"> ● Correctly and expeditiously performs all required checklists in accordance with the MCS Student Guide and FTI.

BEHAVIOR STATEMENT	STANDARDS
23. Fuel Management/Analysis	
<ul style="list-style-type: none"> ● Maintain fuel awareness throughout flight. 	<ul style="list-style-type: none"> ● Monitors fuel state and directs deviations if needed to accomplish mission and land with adequate fuel reserve. ● Uses groundspeed to update estimated fuel at on-station entry point or IAF within 500 pounds of instructor's calculation. ● Analyzes actual fuel state and correctly states any trend in fuel consumption.
24. Tactical Radio Procedures	
<ul style="list-style-type: none"> ● Communicates/performs with standard terminology per the unclassified tactical aid, checklists, and FTI. ● Performs tactical radio procedures at the MCS crew station and directs via the use of V/UHF/HF/SATCOM radios and ICS. 	<ul style="list-style-type: none"> ● Responds correctly to 90 percent or more of tactical incoming calls. ● Acknowledges all communications. ● Communicates clearly and concisely with appropriate tactical unit using standard tactical radio procedures. ● Makes timely transmissions without blocking other radio calls. ● Communicates using standard terminology and brevity. ● Communicates precise formatted radio transmissions when applicable. ● Communicates properly during secure radio transmissions. ● Properly encrypts sensitive information during an unsecure transmission utilizing the card-of-the-day.
25. Mission Ownership	
<ul style="list-style-type: none"> ● Takes charge of the mission in all aspects of planning and execution. ● Exhibit aviation leadership. 	<ul style="list-style-type: none"> ● Leads planning, briefing and execution of the mission. ● Confidently influences aircrew to work in a coordinated effort toward successful task completion within the parameters of the mission objectives.

BEHAVIOR STATEMENT	STANDARDS
25. Mission Ownership (cont.)	
	<ul style="list-style-type: none"> ● Determines actionable solutions to potential problems articulating proactive alternatives/courses of action. ● Takes command of mission execution and provides reasoned alternatives to mission plan due to evolving and dynamic circumstances.
26. Prioritization	
<ul style="list-style-type: none"> ● Manages task loading in the proper order of precedence per FTI-recommended minimum requirements. 	<ul style="list-style-type: none"> ● Effectively prioritizes task loading in descending order of importance (i.e., aviate, navigate, communicate, and checklists).
27. Scan	
<ul style="list-style-type: none"> ● Exhibits proper recognition of system and flight instrumentation. 	<ul style="list-style-type: none"> ● Recognizes any abnormal system indications. ● Recognizes any deviations from desired heading, airspeed, or altitude and makes recommendations for appropriate and timely corrections. ● Makes required altitude calls.
28. AEW Manual Tracking	
<ul style="list-style-type: none"> ● Directs/performs AEW manual tracking procedures. 	<ul style="list-style-type: none"> ● Correctly analyzes the target tracks course and speed. ● Correctly labels and reports track into the Link. ● Utilizes voice communications to report track to the Air Warfare Commander.
29. AEW Near Collision Intercepts	
<ul style="list-style-type: none"> ● Directs/performs AEW near collision procedures. 	<ul style="list-style-type: none"> ● Employs proper radar modes and mechanics. ● Directs fighter to a proper intercept course in a timely manner, intercept CPA ± 2 NM. ● Provides updated Bingo information after each intercept. ● 80 percent accurate bearing, range, and altitude information provided. ● Maintains SA to each fighter's fuel state.

BEHAVIOR STATEMENT	STANDARDS
30. On-Station Air Defense	
<ul style="list-style-type: none"> ● Directs/performs on-station air defense procedures. 	<ul style="list-style-type: none"> ● Directs friendly assets to optimal intercept geometry, speed, and altitude. ● Maintains proper Air Defense Posture. ● Communicates airborne decisions/posture to the Air Warfare Commander. ● Understands and executes the Air Defense plan according to Daily Intentions Message and Air Warfare instructions.
31. Air Intercept Control	
<ul style="list-style-type: none"> ● Directs/performs AIC procedures. 	<ul style="list-style-type: none"> ● Tactically/safely directs fighter aircraft to a beyond-visual-range weapons employment opportunity. ● Reacts appropriately to established timeline. ● 80 percent accurate AIC calls according to FTI. ● 80 percent accurate spike calls when provided a spike vector. ● 80 percent accurate threat calls to untargeted groups within briefed threat range. ● Utilizes off-board sensors to identify and classify targets. ● Targets all bandits/hostile aircraft that present a threat to mission or meet ROE/PHID.
32. Strike	
<ul style="list-style-type: none"> ● Directs strike procedures. 	<ul style="list-style-type: none"> ● Directs friendly assets to optimal strike positions. ● Determines tactically when an intercept is necessary or should be avoided with regards to established timeline.
33. Operational Charts	
<ul style="list-style-type: none"> ● Prepares operational charts. 	<ul style="list-style-type: none"> ● Utilizes the proper chart for the terminal and on-station environments. ● Annotates OPAREA, Mandatory Reporting Points, and Departure and Arrival airfield, on the appropriate chart. ● Annotates MOSA and standoffs on the appropriate chart.

BEHAVIOR STATEMENT	STANDARDS
34. Terrain Avoidance/Standoffs	
<ul style="list-style-type: none"> ● Directs/performs terrain avoidance procedures. ● Directs/performs standoff procedures. 	<ul style="list-style-type: none"> ● Performs proper MOSA calls within 15 NM of a landmass threat. ● Performs proper standoff calls for land, weapons, and ships. ● Coordinates a CPA with the pilot for MOSA and standoff calls.
35. Operational Record Keeping	
<ul style="list-style-type: none"> ● Performs operational record keeping procedures. 	<ul style="list-style-type: none"> ● Properly fills out the administrative, communications, and preflight data without error. ● Logs 80 percent of all tactical-related events.
36. ISAR Utilization	
<ul style="list-style-type: none"> ● Directs/performs ISAR operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the ISAR equipment. ● Directs the optimal flight conditions to achieve a proper ISAR image. ● Properly identifies the surface contact features utilizing the ISAR mode. ● Monitors the status of the ISAR mode and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all ISAR mode malfunctions.

BEHAVIOR STATEMENT	STANDARDS
37. Surface Search	
<ul style="list-style-type: none"> ● Directs/performs surface search procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Completes sensor status checks as it pertains to surface search. ● Completes environmental assessment as it pertains to surface search. ● Directs/performs surface search strategy. ● Performs radar plot. ● Updates surface plot every five minutes unless mission tasking prohibits (e.g., ASW prosecution). ● Identifies surface contacts utilizing sensors available. ● Properly identifies hull profiles and features as required. ● Logs 90 percent or more of surface COIs'/CCOIs' position, course/speed, and description. ● Reports 100 percent of the surface contacts via link or voice report (if link degraded). ● Reports COIs and CCOIs per the mission tasking brief within five minutes of identifying. ● Reports unusual or suspicious surface traffic per the mission tasking brief within five minutes of the incident. ● Performs proper localization procedures. ● Performs proper tracking procedures. ● Directs rigging procedures per the mission tasking brief.

BEHAVIOR STATEMENT	STANDARDS
38. SAR Utilization	
<ul style="list-style-type: none"> ● Directs/performs SAR operations with the aid of checklists and mission tasking brief. 	<ul style="list-style-type: none"> ● Properly operates all functions of the SAR equipment. ● Directs the optimal flight conditions to achieve a proper SAR image. ● Properly operates the SAR mode to acquire usable images. ● Monitors the status of the SAR mode and acknowledges sensor degradations within five minutes of the malfunction. ● Properly troubleshoots all SAR mode malfunctions.
39. Littoral Surveillance	
<ul style="list-style-type: none"> ● Directs/performs littoral surveillance procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Completes sensor status checks as it pertains to littoral surveillance. ● Completes environmental assessment as it pertains to littoral surveillance. ● Directs/performs littoral surveillance strategy. ● Directs the aircraft altitude and position for optimal coverage. ● Properly compares order of battle imagery of port facilities to the mission tasking brief. ● Reports COIs and CCOIs per the mission tasking brief within five minutes of identifying within a port facility. ● Reports unusual or suspicious port facility actions per the mission tasking brief within five minutes of the incident.

BEHAVIOR STATEMENT	STANDARDS
40. Signal Collection	
<ul style="list-style-type: none"> ● Determine and act upon signals prioritization and mission requirements. ● Identify signals necessary for successful mission completion and mission requirements. ● Execute ESM reporting procedures and mission profile. 	<ul style="list-style-type: none"> ● Properly locates 80 percent or more of tasked and/or priority signals. ● Completes 80 percent or more of tasked signals. ● Leaves no more than two high-priority signals unprocessed/reported. ● Makes no more than three errors identifying signals. ● Identifies threat signals with no more than two errors. ● Identifies signals in a timely manner so as not to hinder mission accomplishment. ● Makes 80 percent or more of tactical reports (TACREPS) within five minutes of threat recognition. ● Updates 80 percent or more of TACREPS as appropriate for DF location and emitter mode changes. ● Uses the correct brevity codes on 80 percent of reports or greater. ● Correctly annotates 80 percent of TACREP calls on log. No more than eight log errors. ● ESM log entries include emitter name, type, location, TACREPs, SITREPs, and malfunctions.
41. Environmental Data Collection	
<ul style="list-style-type: none"> ● Directs/performs environmental data collection procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Simulates safe deployment of BT and AN sonobuoy in the vicinity of on-station area. ● Properly logs environmental data forms and reports it to other assets as applicable.

BEHAVIOR STATEMENT	STANDARDS
42. Acoustic Tracking	
<ul style="list-style-type: none"> ● Directs/performs acoustic tracking procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Directs all sonobuoy drops with the pilot. ● Properly and safely deploys a basic passive sonobuoy search pattern. ● Properly and safely deploys a basic passive sonobuoy localization pattern. ● Tracks a contact utilizing Doppler contact from passive sonobuoys. ● Tracks a contact utilizing passive bearings and develops a track. ● Tracks a contact utilizing simulated active contact.
43. Coordinated Operations	
<ul style="list-style-type: none"> ● Directs/performs coordinated operations procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization. 	<ul style="list-style-type: none"> ● Maintains safety of flight as the priority at all times. ● Utilizes all airborne and surface asset sensors to aid in the search of hostile forces. ● Aids mission commander with the proper determination of classification of a subsurface contact. ● Communicates contact reports within two minutes of discovery and updates authority every ten minutes or at each dynamic change. ● Communicates pertinent information to the proper controlling authority in less than five minutes of discovery. ● Properly communicates with other airborne assets and surface assets. ● Coordinates airborne assets and surface assets as directed by tasking authority. ● Maintains SA of water space management. ● Immediately communicates “Dog Box” reports. ● Immediately communicates hostile actions towards a friendly asset.

BEHAVIOR STATEMENT	STANDARDS
44. E-6 Equipment Utilization	
<ul style="list-style-type: none"> ● Directs/performs E-6 equipment utilization. 	<ul style="list-style-type: none"> ● Properly operates all functions and locates the MILSTAR radio. ● Monitors the status of the MILSTAR and acknowledges degradations within ten minutes of the malfunction. ● Properly troubleshoots all MILSTAR malfunctions. ● Properly operates all functions and locates the VLF radio. ● Monitors the status of the VLF and acknowledges degradations within ten minutes of the malfunction. ● Properly troubleshoots all VLF malfunctions. ● Properly monitors the mission computer system.
45. E-6 Communications	
<ul style="list-style-type: none"> ● Directs/performs E-6 comm procedures. 	<ul style="list-style-type: none"> ● Coordinates all comm systems with the proper prioritization in regards to receiving and transmitting. ● Properly prioritizes message traffic. ● Authenticates messages with no mistakes. ● Properly manages time constraints for communication activities.
46. E-6 Operations	
<ul style="list-style-type: none"> ● Directs/performs E-6 operations procedures. 	<ul style="list-style-type: none"> ● Conducts proper handover for relieved aircraft. ● Properly directs the crew in the operations area. ● Properly directs the flight deck and crew in response to an EAM. ● Coordinates with the flight deck and reel operator during trailing wire operations. ● Properly manages time constraints. ● Conducts proper handover for relief aircraft.

BEHAVIOR STATEMENT	STANDARDS
47. Aerial Refueling	
<ul style="list-style-type: none"> ● Directs E-6 aerial refueling procedures. 	<ul style="list-style-type: none"> ● Directs air refueling procedures. ● Directs the flight deck to the air refueling initial point. ● Operates appropriate sensors and comm equipment as it pertains to air refueling. ● Utilizes proper radio procedures as it pertains to air refueling. ● Properly manages time considerations as it pertains to air refueling.
48. Flight Instruction/Detect and Correct Student Errors	
<ul style="list-style-type: none"> ● Maintain vigilance in order to recognize student errors and correct them effectively. ● Help student improve individual performance. 	<ul style="list-style-type: none"> ● Identifies and understands typical student errors for the specific stage. ● Detects and corrects student errors per FTI and standardization. ● Ensures student understands any procedural errors, and how to avoid them in the future.
49. Instructional Assistance	
<ul style="list-style-type: none"> ● Provide appropriate guidance to ensure mission completion and safety. 	<ul style="list-style-type: none"> ● Provides helpful techniques to student to improve airmanship and increase overall situational awareness. ● Assists student in decision-making process. ● Allows student to recognize mistakes. ● Allows student to correct self to maximum extent. ● Provides helpful techniques to improve student performance consistent with FTIs.
50. Aviation Training Jacket Review	
<ul style="list-style-type: none"> ● Perform thorough review of student training jacket, including previous simulator and flight grades. 	<ul style="list-style-type: none"> ● Demonstrates knowledge of syllabus and simulator event requirements. ● Understands required MIF items to be performed. ● Recognizes overall student trends.

BEHAVIOR STATEMENT	STANDARDS
51. Grading	
<ul style="list-style-type: none"> ● Objective measure of performance for specific graded items for the event. 	<ul style="list-style-type: none"> ● Conducts all student training objectives per the student master curriculum guide. ● Grades appropriately per established NFOTS CTS. ● Completes grade sheet per applicable directive without error.
52. Debriefing	
<ul style="list-style-type: none"> ● Conduct thorough review of overall mission conduct and effectiveness. ● Review overall student performance and effectiveness. ● Provide instruction to correct student deficiencies. ● Document student performance. 	<ul style="list-style-type: none"> ● Demonstrates knowledge of syllabus and mission requirements. ● Recognizes overall student trends. ● Identifies student strengths/weaknesses per FTIs and applicable directives. ● Presents strengths/weaknesses in a manner conducive to a positive learning environment. ● Describes how student strengths/weaknesses contributed to mission effectiveness. ● Reviews overall strengths and weaknesses exhibited by the student for the mission event. ● Provides feedback to improve techniques and make subsequent events better. ● Proposes additional techniques, if applicable, to aid student comprehension of procedures and improve future performance.

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Chapter X

Master Materials List

1. Individually Issued Materials

<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>
a. Master Curriculum Guide	CNATRAISNT 1542.173A	1
b. Master Curriculum Guide	CNATRAINST 1542.180A	1
c. Master Curriculum Guide	CNATRAINST 1542.181	1
d. Master Curriculum Guide	CNATRAINST 1542.182	1
e. Master Curriculum Guide	CNATRAINST 1542.183	1
f. CNATRA Flight Training Instructions	Various	

2. Major Training Device. Multi-Crew Simulator (2B51) quantity controlled by Naval Air Warfare Center Training Systems Division (NAVAIRWARCENTRASYSYSDIV), Training Material Management Division, Inventory Control Branch.

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12 Dec 2023

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