

NAVAL AIR TRAINING COMMAND



NAS CORPUS CHRISTI, TEXAS  
CIN Q-2D-0193

CNATRAINST 1542.193  
22 Sep 2021

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## CHIEF OF NAVAL AIR TRAINING



# ADVANCED MQ-25 NAVAL AIR VEHICLE OPERATOR TRAINING SYSTEM (NAVOTS) CURRICULUM 2021





DEPARTMENT OF THE NAVY  
CHIEF OF NAVAL AIR TRAINING  
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CNATRINST 1542.193  
N719  
22 Sep 2021

CNATRA INSTRUCTION 1542.193

From: Chief of Naval Air Training

Subj: ADVANCED MQ-25 NAVAL AIR VEHICLE OPERATOR TRAINING SYSTEM CURRICULUM

1. Purpose. To publish the curriculum for training Student Air Vehicle Operators (SAVOs) in the Advanced Naval Air Vehicle Operator Training System Curriculum (NAVOTS) phase of training.
2. Action. This curriculum is effective on receipt. No changes will be made without written authorization by the Chief of Naval Air Training (CNATRA).
3. 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 September 2019.
4. 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.
5. Forms. The CNATRA forms required by this instruction are automated in the Training Learning Management System (T/LMS) computer program. Additional copies of CNATRA forms are available on the CNATRA website <https://www.cnatra.navy.mil/pubs-forms.asp>.

A handwritten signature in black ink, appearing to read "K. H. DELANO", is positioned above the typed name.

K. H. DELANO  
By direction

Releasability and distribution:

This instruction is cleared for public release and is available electronically only via Chief of Naval Air Training website <https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx>.

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LIST OF EFFECTIVE PAGES

Original

Total number of pages is 78 consisting of the following:

Page Number

Issue

Letter/(2 blank)  
3/(4 blank)  
i – ii  
iii/(iv blank)  
v – vi  
vii/(viii blank)  
ix – xii  
xiii/(xiv blank)  
xv – xviii  
I-1 – I-2  
I-3/(I-4 blank)  
I-5 – I-16  
II-1 – II-2  
II-3/(II-4 blank)  
III-1/(III-2 blank)  
IV-1/(IV-2 blank)  
V-1/(V-2 blank)  
VI-1/(VI-2 blank)  
VII-1 – VII-8  
VII-9/(VII-10 blank)  
VIII-1 – VIII-6  
VIII-7/(VIII-8 blank)  
IX-1 – IX-6  
IX-7/(IX-8 blank)  
X-1/(X-2 blank)

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TABLE OF CONTENTS

	<u>PAGE</u>
<u>SUMMARY OF CHANGES</u> .....	iii
<u>COURSE DATA</u> .....	v
<u>ABBREVIATIONS</u> .....	ix
<u>GLOSSARY</u> .....	xv
 <u>CHAPTER I. GENERAL INSTRUCTIONS</u>	
SYLLABUS MANAGEMENT.....	I-1
TRAINING MANAGEMENT .....	I-2
UNSATISFACTORY (UNSAT) PERFORMANCE .....	I-3
ADVANCED MQ-25 NAVOTS COURSE FLOW.....	I-5
TRAINING REVIEW BOARD .....	I-6
TRAINING DELAYS AND WARMUP EVENTS WITHIN STAGE .....	I-6
ADDITIONAL SIMULATORS EXTRA TRAINING (ET) EVENTS (XX87).....	I-7
GROUND TRAINING AND BRIEFING REQUIREMENTS.....	I-8
MISSION GRADING PROCEDURES AND EVALUATION POLICIES .....	I-9
ADV NAVOTS PROGRESS CHECK TRAINING REVIEW PROCESS .....	I-15
SPECIAL INSTRUCTIONS AND RESTRICTIONS .....	I-16
 <u>CHAPTER II. GROUND TRAINING</u>	
ADMINISTRATION (ADM01) .....	II-1
CVN OPERATIONS (CVN01).....	II-2
CARRIER STRIKE GROUP SUPPORT (CSG01).....	II-3
 <u>CHAPTER III. NATOPS TRAINING</u>	
DOES NOT APPLY .....	III-1
 <u>CHAPTER IV. CONTACT TRAINING</u>	
DOES NOT APPLY .....	IV-1
 <u>CHAPTER V. INSTRUMENT TRAINING</u>	
DOES NOT APPLY .....	V-1

CHAPTER VI. NAVIGATION TRAINING

DOES NOT APPLY ..... VI-1

CHAPTER VII. CVN OPERATIONS TRAINING

SEATING ..... VII-1  
MATRICES ..... VII-1  
CVN OPERATIONS STAGE MIF ..... VII-1  
CVN OPERATIONS CASE I SIM EVENT SUPPORT (CVN11)..... VII-3  
CVN OPERATIONS CASE I (CVN31) ..... VII-4  
CVN OPERATIONS CASE III SIM EVENT SUPPORT (CVN12) ..... VII-6  
CVN OPERATIONS CASE III (CVN32) ..... VII-7  
CVN OPERATIONS CHECK FLIGHT (CVN33)..... VII-9

CHAPTER VIII. CARRIER STRIKE GROUP SUPPORT TRAINING

SEATING ..... VIII-1  
MATRICES ..... VIII-1  
CARRIER STRIKE GROUP SUPPORT STAGE MIF ..... VIII-1  
CARRIER STRIKE GROUP SUPPORT SIM EVENT SUPPORT (CSG11)..... VIII-3  
CARRIER STRIKE GROUP SUPPORT (CSG31) ..... VIII-4  
CARRIER STRIKE GROUP SUPPORT CHECK FLIGHT (CSG32)..... VIII-6

CHAPTER IX. COURSE TRAINING STANDARDS

PURPOSE..... IX-1  
STUDENT DUTIES AND RESPONSIBILITIES ..... IX-1  
GENERAL STANDARDS ..... IX-1  
EXECUTION ..... IX-1  
JOB TASKS ..... IX-1  
GRADED ITEMS ..... IX-1  
COURSE TRAINING STANDARDS ..... IX-2

CHAPTER X. MASTER MATERIALS LIST

INDIVIDUALLY ISSUED MATERIALS ..... X-1  
MAJOR TRAINING DEVICE..... X-1



SUMMARY OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	CHANGE DESCRIPTION	PAGES AFFECTED/ INITIALS

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COURSE DATA

1. Course Title. Advanced MQ-25 Naval Air Vehicle Operator Training System (NAVOTS) Curriculum.
2. Course Identification Numbers (CIN). Advanced MQ-25 NAVOTS Q-2D-0193.
3. Location. Naval Air Station (NAS) Pensacola.
4. Course Status. Active.
5. Course Mission. The mission of the Advanced MQ-25 NAVOTS curriculum is to qualify Student Air Vehicle Operator (SAVO) graduates for follow-on training and prepare them for their future responsibilities as MQ-25 Unmanned Aircraft System (UAS) Air Vehicle Operators. At the successful completion of this syllabus, the student will be designated an Air Vehicle Operator.
6. Prerequisite Training. Successful completion of Intermediate Naval Air Vehicle Operator Training System (NAVOTS) Curriculum. (CIN).
7. Security Clearance Requirements. None.
8. Follow-on Training. Assigned by the graduate's parent service.
9. Course Length. For time-to-train calculations for this MCG please refer to CNATRA N3 Annual Time-to-Train Entitlement Notice for active 1542 series instructions on the CNATRA website: <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. Chief of Naval Air Training (CNATRA).
14. Quota Control. CNO.

15. Course Training Subjects

a. Advanced Training

(1) Administration

<b>ADMINISTRATION</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
Administration	ADM0101-2	4.0
<b>Totals</b>		<b>4.0</b>

(2) Ground Training

<b>GROUND TRAINING</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
CVN Operations	CVN0101-7	19.0
CVN Operations Exam	CVN0108	1.5
Carrier Strike Group Support	CSG0101-9	17.0
Carrier Strike Group Support Exam	CSG0110	1.5
<b>Totals</b>		<b>39.0</b>

(3) Simulator Support

<b>SIMULATOR SUPPORT</b>		
<b>Stage</b>	<b>Symbol</b>	<b>Hours</b>
CVN Operations Case I Support	CVN1101-3	7.0
CVN Operations Case III Support	CVN1201-3	8.0
Carrier Strike Group Support	CSG1101-3	7.5
<b>Totals</b>		<b>22.5</b>

(4) Simulator Training

<b>SIMULATOR TRAINING</b>			
<b>Flight/Events</b>	<b>Symbol</b>	<b>MCS</b>	
		<b>Flts</b>	<b>Hrs</b>
CVN Operations Case I	CVN3101-3	3	4.5
CVN Operations Case III	CVN3201-5	5	7.5
CVN Operations Check Flight	CVN3390	1	1.5
Carrier Strike Group Support	CSG3101-9	9	13.5
Carrier Strike Group Support Check Flight	CSG3290	1	2.0
<b>Totals</b>		<b>19</b>	<b>29.0</b>

16. Training Time Analysis. In addition to the hours formally planned and scheduled for academic classes and simulator events, significant additional time to prepare and study outside of scheduled training hours should be expected by the SAVO. The amount of time will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator events, specific brief times will be programmed into the CNATRA approved Training/Learning Manager Management System (T/LMS) and accounted for on the flight schedule, per the following table:

<b>ADDITIONAL FORMAL TRAINING TIME PER CURRICULUM HOUR/EVENT</b>			
<b>Training Area</b>	<b>Brief</b>	<b>Debrief</b>	<b>Total</b>
Simulator Events: All (IAVO)	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. Primary Instruction Methods. Lecture, Mediated Interactive Lecture (MIL), Computer Assisted Instruction (CAI), 2B51 Multi-Crew Simulator (MCS), and self and group paced study.

20. Preceding Curriculum Data. None.

21. Student Performance Measurement/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 instructor. Refer to CNATRAINST 1500.4J, Chapter 6, for further guidance.

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ABBREVIATIONS

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

ACLS	-	Automatic Carrier Landing System
ADMACS	-	Aviation Data Management and Control System
ADMIN	-	Administration
AEW	-	Airborne Early Warning
AIC	-	Air Intercept Control
AIR OPS	-	Air Operations/Air Operations Commander
AIR PLAN	-	Air Operations Plan or Flight Schedule
ASI	-	Aviation Student Indoctrination
ATF	-	Aviation Training Form
ATJ	-	Aviation Training Jacket
AVO	-	Air Vehicle Operator
BRAA	-	Bearing/Range/Altitude/Aspect
CAG	-	Carrier Air Group; also used to address the Air Wing Commander
CAI	-	Computer-Assisted Instruction
CAP	-	Combat Air Patrol
CAS	-	Close Air Support
CNATRA	-	Chief of Naval Air Training
CO	-	Commanding Officer
COMM	-	Communications
COMTRAWING SIX	-	Commander, Training Air Wing SIX
CO-PC	-	Commanding Officer Progress Check
CPA	-	Closest Point of Approach
CRM	-	Crew Resource Management

CTS	-	Course Training Standard(s)
CVN	-	Carrier, Aircraft, Nuclear, US Navy
CVW	-	Carrier Air Wing
CWC	-	Composite Warfare Commander
DCA	-	Defensive Counter Air
DOR	-	Drop On Request
EO/IR	-	Electro-Optical/Infra-Red
EOB	-	End of Block
EP	-	Emergency Procedure
ER	-	Event Rehearsal
ES	-	Electronic Support
ESM	-	Electronic Support Measure
ET	-	Extra Training
FAM	-	Familiarization Stage
FEZ	-	Fighter Engagement Zone
FMS	-	Flight Management System
FRS	-	Fleet Replacement Squadron
FTI	-	Flight Training Instruction
GPS	-	Global Positioning System
H/X	-	Hours per Event
IAVO	-	Instructor Air Vehicle Operator
IAW	-	In Accordance With
ICS	-	Intercommunication System
IFF	-	Identification Friend or Foe



IFLOLS	- Improved Fresnel Lens Optical Landing System
IFR	- Instrument Flight Rules or In-Flight Report
INFO	- Instructor Naval Flight Officer
INS	- Inertial Navigation System
IP	- Instructor Pilot
IPC	- Initial Progress Check
ISR	- Intelligence, Surveillance and Reconnaissance
JEZ	- Joint Engagement Zone
JP-5/JP-8	- Jet Fuel
JPALS	- Joint Precision Approach and Landing System
JEZ	- Joint Engagement Zone
MAGIC CARPET	- Maritime Augmented Guidance with Integrated Controls for Carrier Approach and Recovery Precision Enabling Technologies
MC2	- Maritime Command and Control
MCG	- Master Curriculum Guide
MCS	- Multi-Crew Simulator
MEZ	- Missile Engagement Zone
MIF	- Maneuver Item File
MIL	- Mediated Interactive Lecture
MILPERSMAN	- Military Personnel Manual
MPR	- Maritime Patrol and Reconnaissance
N/A	- Not Applicable
Nav	- Navigation
NAVOTS	- Naval Air Vehicle Operator Training System
NCI	- Near Collision Intercept

NFO	-	Naval Flight Officer
NG	-	No Grade
NLT	-	No Later Than
NM	-	Nautical Miles
NSS	-	Naval Standard Score
OAS	-	Offensive Air Support
OCA	-	Offensive Counter Air
OPS	-	Operations
OPTASK	-	Operational Tasking
PAS	-	Phase Aggregate Score
PC	-	Progress Check
PHID	-	Positive Hostile Identification
PID	-	Positive Identification
PLATCAM	-	Pilot's Landing Aid Television Camera
RADAR	-	Radio Detection and Ranging
ROE	-	Rules of Engagement
RRU	-	Ready Room Unsatisfactory
SA	-	Situational Awareness
SATCOM	-	Satellite Communications
SIM	-	Simulator
SOP	-	Standard Operating Procedure
SAVO	-	Student Air Vehicle Operator
SS	-	Self-Study
SSR	-	Special Syllabus Requirement
TCC	-	Tactical Crew Coordination
TRAWING	-	Training Air Wing

TRB	-	Training Review Board
TTLR	-	Turning Tanker-Last Recovery
TTO	-	Training Time Out
UNSAT	-	Unsatisfactory
WU	-	Warm Up
XO	-	Executive Officer

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## 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 1500.4J.
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.
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 progress check either directed by the Commanding Officer, or if triggered by SAVO performance. A satisfactory CO-PC returns the student to normal syllabus flow. An UNSAT CO-PC results in a 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. Deliverables. A CNATRA 1542/1827 TRB Summary Form generated by the TRB that summarizes a specific student's progress in a given syllabus and provides detailed information on the application of AVO training for that student. Deliverables indicate whether the quality and continuity of training provided was IAW CNATRAINST 1542.193.
13. 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.
14. 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.
15. 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.
16. Event. A scheduled period of prescribed instruction. It may be in an academic or laboratory classroom, a simulator, or flight environment.
17. Event Rehearsal (ER). A hard scheduled simulator support event designed to prepare the student for the next block of simulator training. This event may be scheduled as student only, or it may require the addition of an instructor and IOS operator to assist the student in using the training device. This requirement, if present, will be specified for each event.
18. 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.
19. 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.
20. Hours per Event (H/X). The resourced duration for each event, rounded to the nearest tenth of an hour.
21. Initial Progress Check (XX88). A special check given by an experienced instructor (senior O-3 or above) as designated in writing by the CO. A satisfactory IPC returns the student to normal syllabus flow. An IPC can count as a progressing event at the CO’s discretion. An UNSAT IPC results in a CO-PC.

22. 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 CNATRA 1550.6F for further information.

Char	Meaning	Remarks
1 <sup>st</sup> – 3 <sup>rd</sup>	Stage	ADM - Administration      CVN – Carrier Operations      CSG – Carrier Strike Group Support
4 <sup>th</sup>	Media	0 - Ground Training      2 - CPT 1 - Academics              3 - Simulator
5 <sup>th</sup>	Block	Sequential, indicating block within stage.
6 <sup>th</sup> & 7 <sup>th</sup>	Event/ Check Identifier	Sequential, indicating event within block, or other event types as shown below: 84 - Adaptation Flight              88 - Initial Progress Check 85 - Practice Sim                      89 - CO Progress Check 86 - Warmup                              90 - Check Flight 87 - Extra Training

23. 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.

24. Maneuver Item File (MIF). A chart listing the required maneuvers and associated proficiency levels for a particular block of flight training.

25. Master Curriculum Guide (MCG). A publication tailored to a specific phase of training.

26. Phase of Training. The chief subdivisions of a course. The Air Vehicle Operator pipeline is comprised of Primary, Intermediate, and Advanced MQ-25 NAVOTS phases of training.

27. Pink ATF. A standard ATF that is printed on pink paper. The pink ATF is used to denote an UNSAT event.

28. Progress Check (XX88/XX89). A student check event within a given stage of training administered by an experienced instructor IAW the CNATRAINST 1500.4J.

29. Progress Check Instructor. An IAVO authorized by the CO 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 and shall be documented on a supplemental ATF.
31. Self-Study Events (SS). A hard scheduled flight support ground event designed to prepare the student for the next block of simulator training. This event may be scheduled as a monitored classroom event or it may be scheduled as individual unsupervised study time.
32. Special Syllabus Requirement (SSR). One-time, ungraded demonstration item(s).
33. Stage. A subdivision of a phase, comprised of events leading to a single set of objectives, designated by a common symbol (e.g., Radio Instruments, Carrier Qualification). Refer to CNATRAINST 1550.6F, Appendix D for further information.
34. Standard Operating Procedure (SOP). An instruction or directive that provides guidance on TRAWING or squadron operating rules for local aircraft.
35. Training Media. Advanced MQ-25 NAVOTS media include simulator (2B51), simulator support and ground training. 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 1550.6F 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 1500.4J 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 SAVO 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.



## 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 IAW CNATRAINST 1550.6F.

e. Execution. All students Chapters II through VIII.

f. Syllabus Description. Advanced MQ-25 NAVOTS 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 Carrier Operations and Carrier Strike Group Support. 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.

#### g. Grade Calculation

(1) Phase Aggregate Score (PAS). PAS is a comparative ranking based on the SAVO's performance on a group of events compared against that of a previous population of completers for the same set of events.

(2) Naval Standard Score (NSS). A representation of any score relative to the average score. The scale is artificially centered at 50 (that is, 50 is average). Each NSS is a whole number and the scale is truncated at 20 and 80.

(3) NAVOTS Calculations. Refer to the CNATRAINST 1500.4J for SAVO PAS and NSS calculations.

## 2. Training Management

### a. Syllabus Progression

(1) Other than noted exceptions, syllabus events shall be flown sequentially within each stage. Blocks shall not be started without all prerequisites completed. Students must complete all events in their assigned phase unless enrolled in an approved accelerated syllabus.

(2) The flowchart on page I-5 is a depiction of the Advanced MQ-25 NAVOTS 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 student per day.

(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. Students 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 CNATRAINST 1500.4J, section 605 for further clarification.

d. Location of Training. Student events may be accomplished at home station or detachments where applicable.

e. Special Syllabus Requirements (SSR). 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.

f. Aviation Training Jacket (ATJ) Reviews. The Class Advisor (CA) shall conduct jacket reviews IAW CNATRAINST 1500.4J.

3. Unsatisfactory (UNSAT) Performance. All training shall be suspended following an UNSAT event, except as addressed or authorized per this MCG.

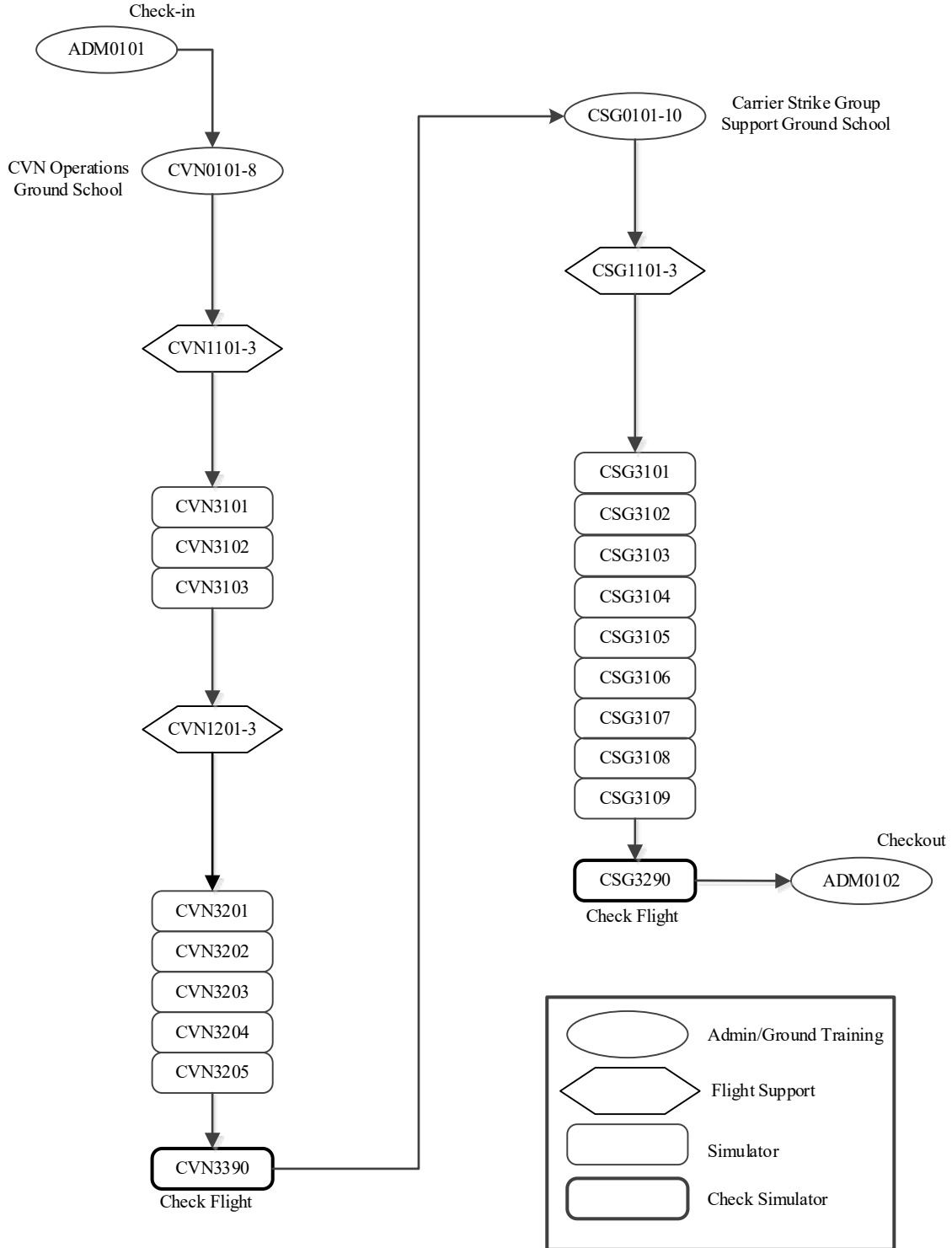
a. Event Progression. Following an UNSAT event, if a PC is not required, that event shall be repeated until the SAVO satisfactorily passes the event.

b. Remediation. Remediation of unsatisfactory performance may be specifically tailored to address deficient skillsets.

c. Ready Room UNSAT (RRU). A missed brief does not constitute a RRU. Missed briefs shall be documented on a Supplementary ATF and counseling or discipline shall be administered as directed by the squadron CO. RRU is defined as either of the following:

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**ADVANCED MQ-25 NAVOTS COURSE FLOW**



(1) A SAVO is inadequately prepared for the scheduled event. The RRU always trigger a Progress Check, so they shall always be documented on a pink version of the event's ATF. The event will be marked as incomplete with a U/2 grade in the appropriate graded item column, (e.g., General Knowledge, Procedures, etc.). Upon successful completion of the Progress Check, the original RRU event shall be flown as a take two (or greater) to complete all remaining, or appropriate items, graded as a normal event.

(2) The SAVO fails a nonacademic examination (e.g., NATOPS quiz).

d. Academic. An academic examination failure is UNSAT and counts towards PC triggers.

e. Simulator UNSAT. A simulator UNSAT may be awarded anytime following the successful completion of an event brief; RRUs may not be awarded after this point. Unsatisfactory performance for simulator events is defined in CNATRAINST1500.4J, Chapter 7.

4. Training Review Board. The TRAWING Commander shall conduct a TRB on all SAVOs recommended for attrition. Refer to the CNATRAINST 1500.4J for additional information and guidance.

5. Training Delays and Warmup Events Within Stage. A Warmup (WU, XX86) event is given to regain flight proficiency due to a training delay. Eligibility is based on the number of days since the last stage syllabus event, in the simulator. WU criteria are normally based on last event in stage because MPTS/MNTS is built on increasing levels of skill attainment between blocks or stand-alone events. Every WU event shall ensure required skills for that stage are refreshed. All Warmup events shall be coded as a XX86 (e.g., CVN3186). Refer to CNATRAINST 1500.4J for Warmup event guidelines.

a. Optional WUs shall be scheduled and flown as the next event. If performance warrants a WU, it shall be re-coded as the last completed event.

b. Mandatory WUs shall be scheduled and flown as the last completed event or as directed by the Commanding Officer. The event shall be coded as a WU (XX86).

c. Individual maneuver grades on WU events will not count toward calculation of SAVO stage and phase grades. WU events are however eligible for overall event UNSAT if a significant incident not related to the stage discontinuity occurred.

d. If the break in training occurs between two simulator events, a mandatory WU shall be flown and coded as the last completed event.

e. The instructor shall document on the ATF the reason and circumstances for awarding the WU event.

f. Check events (XX90) are considered part of the stage for which they are checking for WU purposes.

g. The following table is a quick reference regarding the use of WUs with respect to stage continuity, or breaks in training:

CRITERIA FOR AWARDED WARMUP EVENTS IN STAGE		
BREAK * (DAYS)	WARMUP	REMARKS
7-13	1 Optional	<ul style="list-style-type: none"> <li>– Optional WU is based on performance and is required if overall grade is UNSAT.</li> <li>– WU is prohibited if demonstrated performance is sufficient, or will be sufficient within remaining block events, by EOB.</li> </ul>
14-30	1 Mandatory 1 Optional	<ul style="list-style-type: none"> <li>– Mandatory WU is not an advancing event.</li> <li>– Optional WU is based on performance and is required if overall grade is UNSAT.</li> <li>– WU is prohibited if demonstrated performance is sufficient, or will be sufficient within remaining block events, by EOB.</li> </ul>

h. Training Delays and Warmups Between Stages. WUs are intended for non-curriculum breaks in training. Each curriculum is designed to allow sufficient time for academics, simulators, and flights. First events in stage following ground training are designed and graded with the delay factored in and normally do not require a WU.

i. Between stages, a mandatory WU is required if 14 to 30 days have elapsed since any curriculum event.

j. All WU events between stages shall be recorded on an ATF, and will include all required and relevant information to record the conduct and performance of that WU event.

k. Extended Training Delays. If the period between events is greater than 30 days, the squadron CO shall determine an appropriate WU training plan to regain SAVO proficiency. Refer to the CNATRAINST 1500.4J for further guidance.

6. Additional Simulators Extra Training (ET) Events (XX87). ET events may be awarded by the CO to compensate for either syllabus-related training deficiencies (e.g., MCG deviation) or to correct SAVO performance skillset deficiencies. Refer to CNATRAINST 1500.4J for ET event guidelines.

## 7. Ground Training and Briefing Requirements

### a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The instructor shall carefully review the student's previous ATFs in 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 III-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.

(c) The latest ATF for the stage.

(d) Discuss Items from the daily squadron flight schedule.

(3) Briefing. The instructor shall review the SAVO's previous block ATFs before each event. Thoroughly cover the current mission's:

(a) Discuss Items, as listed in Chapters III-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 instructor shall critique the student's performance using cause/effect analysis, particularly with respect to the CTS.

(b) The mission's complexity and student's progress will govern the time required for debrief, not to exceed one hour.

(c) Debriefing must be detailed and comprehensive. The ATF shall be completed prior to the SAVO's next event IAW CNATRAINST 1500.4J.



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

## 8. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. MIFs listed are minimum block completion standards per maneuver. Students who consistently perform at the absolute minimum standard through multiple blocks of training may not possess the skills required to complete follow-on training. 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. SAVO 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 instructor demonstrates the maneuver and the student 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 SAVO and are appropriate, smooth, and timely.

(2) Overall Event Grades. Overall event grades represent the student'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: SAVO performance meets or exceeds performance necessary to continue to the next block, stage, or phase training.

(b) UNSAT. SAVO exhibits dangerous tendencies, or progress toward meeting EOB standards is insufficient. An overall UNSAT is at the instructor's discretion. It should be noted that an event may be graded UNSAT without any individual maneuvers graded U/2. UNSAT events that do not result in an IPC or CO-PC shall be printed on pink ATF paper; UNSAT Progress Checks and UNSAT events that result in a Progress Check shall also be printed on pink ATF paper. If the SAVO receives an UNSAT on any event, to include XX86 or XX87, 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 instructor shall clearly state the justification in the General Comments section of the ATF. Any UNSAT event, starting with failed academics exams in NIFE, through the final event prior to designations as an Air Vehicle Operator, shall cumulatively be used in Progress Check triggers.

(3) Overall Event Grades. Overall event grades represent SAVO progression through the curriculum. Every training event shall be marked Pass or Unsatisfactory (UNSAT).

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

(b) EOB MIF Performance. SAVO performance meets or exceeds performance necessary to continue to the next block, stage, or phase training. If the student has previously met MIF in the block, he or she must still meet MIF in the EOB event if the maneuver is reattempted.

(c) MIF Performance Maintenance. Students 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.

(4) 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 student meets EOB MIF.

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

(5) 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 student 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.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Authorized Evaluators. The CO shall designate check event instructors 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. SAVO should fly a cross section of Demonstration items (NG/1) after all (+) graded items are adequately performed.

2. The SAVO should be able to demonstrate required levels of proficiency without instructor assistance. However, instruction is allowed on check events and SAVOs may re-attempt maneuvers at the instructor'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 SAVO 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 instructor was unable to observe sufficient examples of a given maneuver to assess overall SAVO 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 instructor determines inadequate performance was demonstrated on any item, or items, that will not predicate successful follow-on normal course flow training.

(3) Progress Check Procedures

(a) Progress checks flown in the simulator are holistic reviews of a SAVO's proficiency, judgment, air sense, and overall ability to complete the mission. The intent of every PC is to determine whether the SAVO has the potential to reach the defined training standards of the current phase of training within the designated TTT, while demonstrating the potential to successfully complete remaining undergraduate and, for Advanced SAVOs, FRS-level training. Refer to CNATRAINST 1500.4J for further guidance and requirements.

(b) IPC. The following defines when to conduct an IPC and IPC outcomes.

1. IPC Triggers:

- a. Two consecutive UNSATs.
- b. Three cumulative UNSATs in NATRACOM.
- c. An UNSAT check event (XX90).
- d. A Ready Room UNSAT (RRU).
- e. At the discretion of the OPSO or CO when there is doubt regarding the student's potential to successfully complete flight training within the programmed TTT.

2. IPC outcomes:

- a. Pass. Returns the student to normal syllabus flow. This will normally return the student to the event that triggered the IPC.
- b. Fail. Results in a CO-PC.

(c) CO-PC. The following defines when to conduct a CO-PC and CO-PC outcomes.

1. CO-PC triggers:

- a. Failure of an IPC.
- b. In any case where a student has undergone an IPC in phase and subsequently meets any of the IPC triggers listed above.
- c. Two academic examination failures in a phase.
- d. Four cumulative UNSATs in a phase, starting with NIFE academics.
- e. At the discretion of the CO when there is doubt regarding the student's potential to successfully complete training.

2. CO-PC outcomes:

- a. Pass. Returns the SAVO to normal syllabus flow. This will normally return the SAVO to the event that triggered the CO-PC. The CO-PC may be considered an advancing event if the CO prescribed that course of action during the post-UNSAT CO's review.

b. Fail. AN UNSAT CO-PC results in an attrition recommendation to the TRAWING Commander and a TRB.

(d) Progress Check Counseling

1. Prior to an IPC (XX88). The SAVO's Class Advisor (CA), Student Control Officer, or Operations Officer (OPSO) shall counsel the SAVO on the IPC process and document counseling on a Supplementary ATF. CO's guidance, ET authorization, and intent to count the PC as an Advancing X shall be included on the Supplementary ATF.

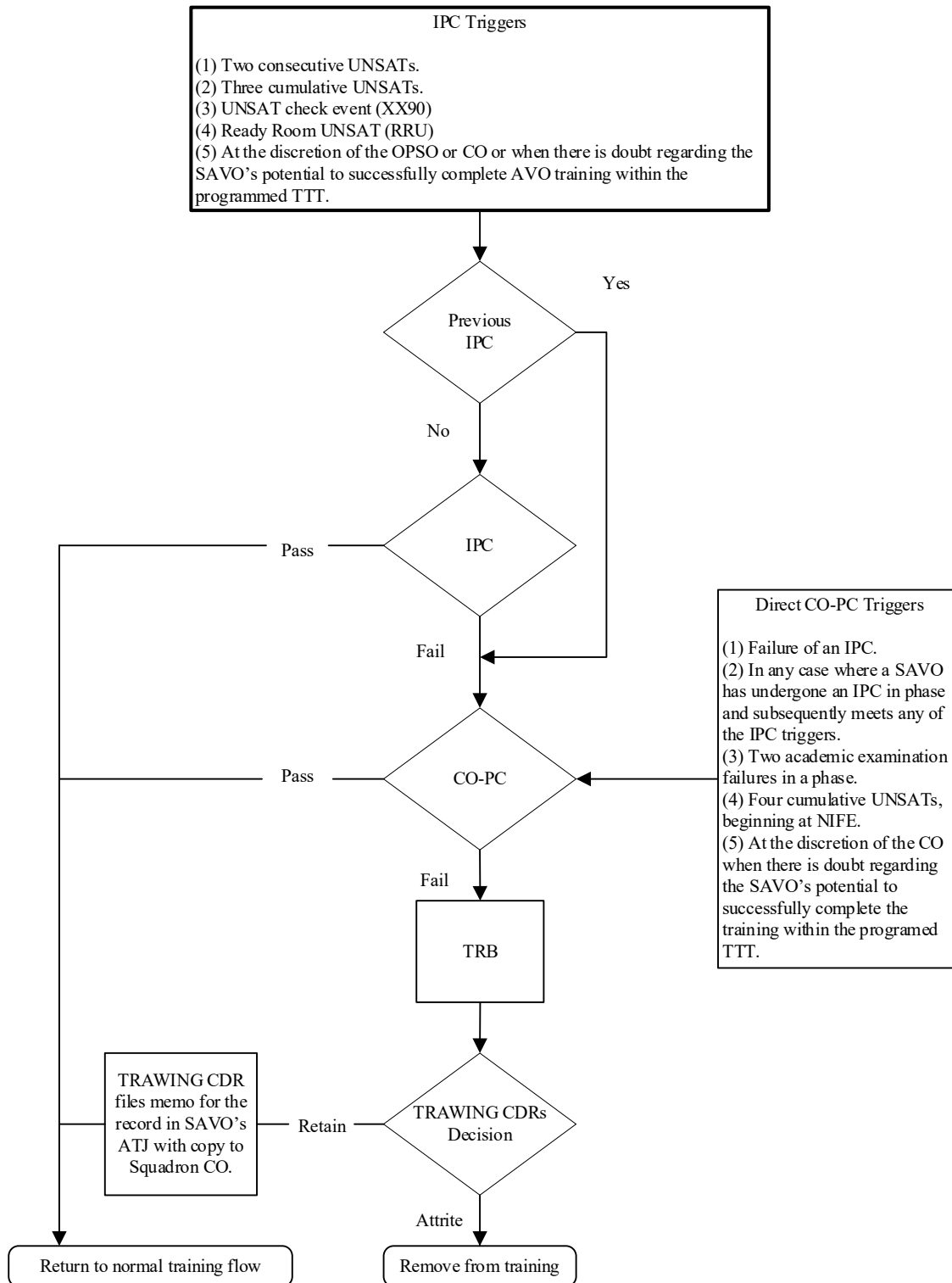
2. Upon completion of an IPC. The IPC IAVO shall counsel the SAVO on the IPC results, recommendations, and future courses of action. The IPC IAVO should also strive to ensure the SAVO is coping with the IPC process appropriately, and notify appropriate squadron leadership immediately if there are any concerns. Post-IPC counseling shall be documented on the IPC (XX88) ATF.

3. Prior to a Commanding Officer Progress Check (CO-PC) (XX89). The CO shall counsel the SAVO on the CO-PC process. This counseling, including ET authorization and intent to count the CO-PC as an advancing event, shall be documented on the CO-PC (XX89) ATF. If the CO is not the CO-PC instructor, the CO shall document counseling on a Supplementary ATF.

4. Upon completion of a CO-PC. The CO-PC Instructor shall counsel the SAVO and document on the (XX89) ATF. Counseling should consist of the CO-PC results, attrition or retention recommendations, and future courses of action. The CO-PC Instructor should also strive to ensure the SAVO is coping with the CO-PC process appropriately, and notify appropriate squadron leadership immediately if there are any concerns. If the CO was not the CO-PC instructor, the CO shall counsel the SAVO and document counseling on a Supplementary ATF.

5. A SAVO being processed for an IPC or CO-PC, who subsequently submits a Drop on Request (DOR), shall be processed as a DOR.

**ADVANCED NAVOTS PROGRESS CHECK TRAINING REVIEW PROCESS**



9. Special Instructions and Restrictions

a. Simulator Hour/Event Requirements and Restrictions

(1) Maximum Daily Student Activities (Simulator or Academic). Students shall not exceed two graded activities during one duty day.

(2) Minimum Student Turn-Times. The instructor shall ensure at least one hour is allocated between debrief and brief of back-to-back simulator events.

(3) Crew Day. The period from the beginning of the student's first event or official duty of the day until the completion of the last event of the day, including associated debrief and paperwork. Student crew day shall not exceed 12 hours.

(4) Crew Rest. A minimum of 12 hours shall elapse between the conclusion of the student's last scheduled event of the day (including associated debrief) and his or her first scheduled event (including associated brief) of the following day. After six consecutive scheduled days, students shall receive one day off. Official duty, squadron training, and standby scheduling do not qualify as a day off.

b. Source Documents. Students are responsible for reviewing applicable source documents (NATOPS, FTIs, local SOPs, etc.) prior to commencing each stage of training.

c. Maneuver Demonstrations. Item demonstrations will be accomplished as required.



Chapter II

Ground Training

Blk #	Media	Title	Events	Hrs	Blk Name
ADM01	Class	Administration	2	4.0	ADMIN

1. Prerequisite. CSG3290 prior to ADM0102.

2. Events

ADM0101	Admin	Check-in		2.0	
ADM0102	Admin	Checkout		2.0	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CVN01	Class	CVN Operations	8	20.5	CVN

1. Prerequisite. ADM0101 prior to CVN0101-8 (in order).

2. Events

CVN0101	CAI	Community Brief		2.0
CVN0102	CAI	MQ-25 Mission Overview		2.0
CVN0103	CAI	Tanking Mission		2.0
CVN0104	MIL	Air Plan/ADMACS		4.0
CVN0105	CAI	Case I/III CVN Operations		2.0
CVN0106	MIL	Case I/III CVN Operations		4.0
CVN0107	MIL	CVN Operations Exam Review		3.0
CVN0108	CAI Test	CVN Operations Exam		1.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CSG01	Class	Carrier Strike Group Support	10	18.5	CSG

1. Prerequisite. CVN3390 prior to CSG0101-10 (in order).

2. Events

CSG0101	CAI	Surface Search Overview		1.0	
CSG0102	CAI	Surface Target Identification		1.0	
CSG0103	CAI	Littoral Surveillance Overview		1.0	
CSG0104	MIL	Surface Search Sensor Employment and Procedures		1.5	
CSG0105	MIL	Littoral Surveillance Sensor Employment and Procedures		1.5	
CSG0106	CAI	AIC Comms/Tactics/Timeline		2.0	
CSG0107	CAI	DCA/Strike Mission		2.0	
CSG0108	MIL	AIC/Missions Overview		4.0	
CSG0109	MIL	CSG Support Exam Review		3.0	
CSG0110	CAI	CSG Support Exam Test		1.5	

3. Syllabus Notes. None.

4. Discuss Items. None.

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Chapter III

NATOPS Training

This chapter does not apply to the Advanced MQ-25 NAVOTS phase of training.

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Chapter IV

Contact Training

This chapter does not apply to the Advanced MQ-25 NAVOTS phase of training.

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Chapter V

Instrument Training

This chapter does not apply to the Advanced MQ-25 NAVOTS phase of training.

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Chapter VI

Navigation Training

This chapter does not apply to the Advanced MQ-25 NAVOTS phase of training.

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Chapter VII

CVN Operations Training

1. Seating. Student shall occupy a student MCS station.
2. Matrices. The following matrices are an overview of the CVN Operations stage. The purpose of these matrices is to provide the student and instructor the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.
3. CVN Operations Stage MIF

	Simulator/Device Event
	Check Flight Event

<b>CVN OPERATIONS STAGE MANEUVER ITEM FILE</b>				
<b>CTS REF</b>	<b>MANEUVER</b>	<b>CVN3103</b>	<b>CVN3205</b>	<b>CVN3390</b>
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
3	Headwork/ Situational Awareness	3+	4+	4+
4	Basic Airwork Recognition	4+	4+	4+
5	System Knowledge	4+	4+	4+
6	Mission Planning/Preparation	3+	3+	4+
7	Brief	4+	4+	4+
8	Inflight Checks	3+	3+	4+
10	Data Link Utilization	3+	3+	4+
11	Communication Procedures	3+	3+	4+

MIF continued on next page.

<b>CVN OPERATIONS STAGE MANEUVER ITEM FILE</b>				
<b>CTS REF</b>	<b>MANEUVER</b>	<b>CVN3103</b>	<b>CVN3205</b>	<b>CVN3390</b>
12	Crew Resource Management/TCC	3+	3+	4+
13	Prioritization	3+	3+	4+
14	Scan	4+	4+	4+
15	Debrief	3+	3+	4+
16	Aerial Refueling	3+	3+	4+
17	Case I/III Procedures	3+	3+	4+
18	EO/IR Utilization	1	1	1

Blk #	Media	Title	Events	Hrs	Blk Name
CVN11	Class/ 2B51	CVN Operations Case I Sim Event Support	3	7.0	CVN

1. Prerequisite. CVN0108 prior to CVN1101-3 (in order).

2. Events

CVN1101      MIL      Case I Flight Preparation      2.0

CVN1102      ER/  
LAB      Case I Event Rehearsal      3.0

CVN1103      SS      Case I Self-Study      2.0

3. Syllabus Note. CVN1102 is a formally scheduled academic simulator support event that is accomplished in the 2B51 MCS with one IAVO assigned per class.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
CVN31	2B51	CVN Operations Case I	3	4.5	1.5

1. Prerequisite. CVN1103 prior to CVN3101-3 (in order).
2. Syllabus Note. Students will begin the event on the CVN flight deck.
3. Special Syllabus Requirements. None.
4. Discuss Items

CVN3101

Air Department composition (Handler, Air Boss, Air Ops, etc.).

CVN3102

Flight Deck organization.

CVN3103

Flight Deck personnel and jersey color designations.

5. Block MIF

CTS REF	MANEUVER	CVN3103
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/ Situational Awareness	3+
4	Basic Airwork Recognition	4+
5	System Knowledge	4+
6	Mission Planning/Preparation	3+
7	Brief	4+
8	Inflight Checks	3+
10	Data Link Utilization	3+
11	Communication Procedures	3+
12	Crew Resource Management/TCC	3+

MIF continued on next page.



<b>CTS REF</b>	<b>MANEUVER</b>	<b>CVN3103</b>
13	Prioritization	3+
14	Scan	4+
15	Debrief	3+
16	Aerial Refueling	3+
17	Case I/III Procedures	3+
18	EO/IR Utilization	1

Blk #	Media	Title	Events	Hrs	Blk Name
CVN12	Class/ 2B51	CVN Operations Case III Simulator Event Support	3	8.0	CVN

1. Prerequisite. CVN3103 prior to CVN1201-3 (in order).

2. Events

CVN1201	MIL	Case III Flight Preparation	2.0
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CVN1202	ER/ LAB	Case III Event Rehearsal	3.0
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CVN1203	SS	Case III Self-Study	3.0
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3. Syllabus Note. CVN1202 is a formally scheduled academic simulator support event that is accomplished in the 2B51 MCS with one IAVO assigned per class.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
CVN32	2B51	CVN Operations Case III	5	7.5	1.5

1. Prerequisite. CVN1203 prior to CVN3201-5 (in order).
2. Syllabus Note. Students will begin the event on the CVN flight deck.
3. Special Syllabus Requirements. None.
4. Discuss Items

CVN3201

Airplan (content, production, changes)

CVN3202

ADMACS (Platcam, Mr. Hands, Ouija Board).

CVN3203

CAG Composition (Staff and Squadrons).

CVN3204

ACLS, JPALS, MAGIC CARPET, IFLOLS.

CVN3205

JP-5, JP-8, YoYo Tanker, TTLR, Trick or Treat, and consolidation.

5. Block MIF

CTS REF	MANEUVER	CVN3205
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/ Situational Awareness	4+
4	Basic Airwork Recognition	4+
5	System Knowledge	4+
6	Mission Planning/Preparation	3+
7	Brief	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>CVN3205</b>
8	Inflight Checks	3+
10	Data Link Utilization	3+
11	Communication Procedures	3+
12	Crew Resource Management/TCC	3+
13	Prioritization	3+
14	Scan	4+
15	Debrief	3+
16	Aerial Refueling	3+
17	Case I/III Procedures	3+
18	EO/IR Utilization	1

Blk#	Media	Title	Events	Hrs	H/X
CVN33	2B51	CVN Operations Check Flight	1	1.5	1.5

1. Prerequisite. CVN3205 prior to CVN3390.
2. Syllabus Note. Students will begin the event on the CVN flight deck.
3. Special Syllabus Requirements. None.
4. Discuss Items. Any previously discussed item from the CVN Operations stage.
5. Block MIF


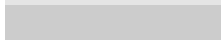
CTS REF	MANEUVER	CVN3390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/ Situational Awareness	4+
4	Basic Airwork Recognition	4+
5	System Knowledge	4+
6	Mission Planning/Preparation	4+
7	Brief	4+
8	Inflight Checks	4+
10	Data Link Utilization	4+
11	Communication Procedures	4+
12	Crew Resource Management/TCC	4+
13	Prioritization	4+
14	Scan	4+
15	Debrief	4+
16	Aerial Refueling	4+
17	Case I/III Procedures	4+
18	EO/IR Utilization	1

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Chapter VIII

Carrier Strike Group Support Training

1. Seating. Student shall occupy a student MCS station.
2. Matrices. The following matrices are an overview of the Carrier Strike Group Support stage. The purpose of these matrices is to provide the student and instructor the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.
3. Carrier Strike Group Support Stage MIF

 Simulator/Device Event  
 Check Flight Event

<b>CARRIER STRIKE GROUP SUPPORT STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>C S G 3 1 0 9</b>	<b>C S G 3 2 9 0</b>
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/ Situational Awareness	4+	4+
4	Basic Airwork Recognition	4+	4+
5	System Knowledge	4+	4+
6	Mission Planning/Preparation	4+	4+
7	Brief	4+	4+
8	Inflight Checks	4+	4+
9	ESM Utilization	4+	4+
10	Data Link Utilization	4+	4+
11	Communication Procedures	4+	4+
12	Crew Resource Management/TCC	4+	4+
13	Prioritization	4+	4+

MIF continued on next page.

<b>CARRIER STRIKE GROUP SUPPORT STAGE MANEUVER ITEM FILE</b>			
<b>CTS REF</b>	<b>MANEUVER</b>	<b>CSG3109</b>	<b>CSG3290</b>
14	Scan	4+	4+
15	Debrief	4+	4+
16	Aerial Refueling	4+	4+
17	Case I/III Procedures	4+	4+
18	EO/IR Utilization	4+	4+
19	Surface/Littoral Surveillance	4+	4+
20	DCA Support	4+	4+
21	Strike Support	4+	4+



Blk #	Media	Title	Events	Hrs	Blk Name
CSG11	Class/ 2B51	Carrier Strike Group Support Simulator Event Support	3	7.5	CSG

1. Prerequisite. CSG0110 prior to CSG1101-3 (in order).

2. Events

CSG1101	MIL	Carrier Strike Group Support Simulator Event Preparation		3.0	
CSG1102	ER/ LAB	Carrier Strike Group Support Event Rehearsal		3.0	
CSG1103	SS	Carrier Strike Group Support Self-Study		1.5	

3. Syllabus Note. CSG1102 is a formally scheduled academic simulator support event that is accomplished in the 2B51 MCS with one IAVO assigned per class.

4. Discuss Items. None.

Blk#	Media	Title	Events	Hrs	H/X
CSG31	2B51	Carrier Strike Group Support	9	13.5	1.5

1. Prerequisite. CSG1103 prior to CSG3101-9 (in order).
2. Syllabus Note. Students will begin the event airborne.
3. Special Syllabus Requirements. None.
4. Discuss Items

CSG3101

Intro to ISR.

Camera modes and merchant ship identification.

CSG3102

ISR.

Data Link symbology.

CSG3103

Intro to Mission Tanking - DCA.

FEZ, JEZ, MEZ, SM-6.

CSG3104

Mission Tanking - DCA.

MQ-25/E-2/C-2 base locations and NAS Patuxent River.

CSG3105

Mission Tanking - Intro to Strike.

Force Concentration versus Defense in Depth.

CSG3106

Mission Tanking - Strike.

F/A-18, E/A-18, F-35 base locations and NAS Fallon.

CSG3107

Strike Group Support 1.

Warfare Commanders and Coordinators.

CSG3108

Strike Group Support 2.  
Sea State, Winds Over Deck.

CSG3109

Strike Group Support EOB.  
E-2 Crew Seats/Designations.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>CSG3109</b>
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/ Situational Awareness	4+
4	Basic Airwork Recognition	4+
5	System Knowledge	4+
6	Mission Planning/Preparation	4+
7	Brief	4+
8	Inflight Checks	4+
9	ESM Utilization	4+
10	Data Link Utilization	4+
11	Communication Procedures	4+
12	Crew Resource Management/TCC	4+
13	Prioritization	4+
14	Scan	4+
15	Debrief	4+
16	Aerial Refueling	4+
17	Case I/III Procedures	4+
18	EO/IR Utilization	4+
19	Surface/Littoral Surveillance	4+
20	DCA Support	4+
21	Strike Support	4+

Blk#	Media	Title	Events	Hrs	H/X
CSG32	2B51	Carrier Strike Group Support Check Flight	1	2.0	2.0

1. Prerequisite. CSG3109 prior to CSG3290.
2. Syllabus Note. Students will begin the event airborne.
3. Special Syllabus Requirements. None.
4. Discuss Items

CSG3290

Any previously discussed item from the Carrier Strike Group Support stage.

5. Block MIF

CTS REF	MANEUVER	CSG3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/ Situational Awareness	4+
4	Basic Airwork Recognition	4+
5	System Knowledge	4+
6	Mission Planning/Preparation	4+
7	Brief	4+
8	Inflight Checks	4+
9	ESM Utilization	4+
10	Data Link Utilization	4+
11	Communication Procedures	4+
12	Crew Resource Management/TCC	4+
13	Prioritization	4+
14	Scan	4+
15	Debrief	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>CSG3290</b>
16	Aerial Refueling	4+
17	Case I/III Procedures	4+
18	EO/IR Utilization	4+
19	Surface/Littoral Surveillance	4+
20	DCA Support	4+
21	Strike Support	4+

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Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of SAVOs during the Advanced MQ-25 phase.

2. Student Duties and Responsibilities

- a. Plan the mission.
- b. Ensure the MCS is inspected and configured for the assigned mission.
- c. Operate the MCS to accomplish the mission using sound judgment and mission ownership.

3. General Standards

- a. “Standard” equates to **good** (G/4).
- b. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.
- c. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment.

4. Execution. The MIF regulates student progression to meet required standards prior to phase completion. Instructors shall evaluate student 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 SAVO...”

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"> <li>● Maintain working knowledge of all appropriate flight training instructions and directives.</li> </ul>	<ul style="list-style-type: none"> <li>● Recites, discusses, and/or performs all applicable items IAW FTI and essential to the operation of the aircraft and completion of the mission.</li> </ul>
2. Emergency Procedures	
<ul style="list-style-type: none"> <li>● Maintain in-depth knowledge of all MCS Student Guide emergency procedures.</li> <li>● Utilize the checklist IAW MCS Student Guide and FTI guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>● Recognizes the status of an immediate action item within one minute.</li> <li>● Performs/recites critical action steps from memory with 100 percent accuracy.</li> <li>● Correctly communicates with the crew to accomplish the procedure(s).</li> <li>● Uses correct checklist to complete procedures when conditions permit.</li> <li>● Proactively responds to compound emergencies and engages in discussion with crewmembers to achieve a resolution.</li> <li>● Prioritizes and correctly analyzes compound emergencies to a logical conclusion/successful resolution.</li> </ul>
3. Headwork/Situational Awareness	
<ul style="list-style-type: none"> <li>● Comply with the FTI and MCS Operating Manual while maintaining SA IAW safety-of-flight and mission objectives.</li> </ul>	<ul style="list-style-type: none"> <li>● Foresees and avoids possible difficulties by making recommendations that enhance the situation and/or overall mission effectiveness.</li> <li>● Remains alert and spatially oriented during all phases of the event.</li> <li>● Maintains overall awareness with regard to fuel state, aircraft configuration, traffic in vicinity of own ship, and dynamic weather conditions.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
4. Basic Airwork Recognition	
<ul style="list-style-type: none"> <li>● Comply with the FTI and MCS Operating Manual while maintaining SA IAW safety-of-flight and mission objectives.</li> </ul>	<ul style="list-style-type: none"> <li>● Monitors aircraft within +/- 100 feet of assigned or directed altitude.</li> <li>● Monitors aircraft within ±10 knots of assigned or directed airspeed.</li> <li>● Monitors aircraft within ±5° of assigned or directed heading.</li> <li>● Recognizes deviations within 30 seconds and immediately directs corrections upon recognition.</li> </ul>
5. System Knowledge	
<ul style="list-style-type: none"> <li>● Comply with the FTI and MCS Student Guide while maintaining a working knowledge of directives.</li> </ul>	<ul style="list-style-type: none"> <li>● Describes the correct nomenclature, purpose, characteristics, functions, and limitations of MCS systems without error.</li> </ul>
6. Mission Planning/Preparation	
<ul style="list-style-type: none"> <li>● Performs mission planning with the aid of checklists and mission tasking brief.</li> </ul>	<ul style="list-style-type: none"> <li>● Clearly defines the mission overview and goals. Identifies appropriate message traffic to properly plan the mission.</li> <li>● Acquires appropriate mission and weather data for the operations area.</li> <li>● Completes mission charts without error.</li> <li>● Identifies appropriate controlling agencies with associated comm frequencies.</li> <li>● Plans alternate destination based on estimated fuel requirements.</li> </ul>
7. Brief	
<ul style="list-style-type: none"> <li>● Performs a proper mission brief.</li> </ul>	<ul style="list-style-type: none"> <li>● Is thoroughly prepared for the brief and as applicable, briefs the flight to include specific mission objectives, flight conduct, and contingency planning.</li> <li>● Conducts an accurate mission and safety brief given a standard mission briefing guide.</li> <li>● Interacts with instructors in a professional manner.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
8. Inflight Checks	
<ul style="list-style-type: none"> <li>● Monitors aircraft systems to include engine, fuel, hydraulics, and C2 link.</li> </ul>	<ul style="list-style-type: none"> <li>● Monitors status of systems and acknowledges deviations within one minute.</li> <li>● Adjusts mission profile for fuel considerations.</li> <li>● Identifies nearest suitable landing field during emergency procedures.</li> <li>● Conducts cruise checks at required intervals.</li> </ul>
9. ESM Utilization	
<ul style="list-style-type: none"> <li>● Performs ESM operations with the aid of checklists and mission tasking brief.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly describes theory of operation and function of the ESM equipment.</li> <li>● Properly operates all functions of the ESM equipment.</li> <li>● Monitors the status of the ESM equipment and acknowledges sensor degradations within one minute of the malfunction.</li> <li>● Properly troubleshoots all ESM equipment malfunctions.</li> </ul>
10. Data Link Utilization (LINK-16)	
<ul style="list-style-type: none"> <li>● Performs data link operations with the aid of checklists, appropriate messages, and mission tasking brief.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly describes theory of operation and function of the data link equipment.</li> <li>● Properly operates all functions of the data link equipment.</li> <li>● Describes all nomenclature as it pertains to data link employment.</li> <li>● Monitors status of the data link and acknowledges sensor degradations within one minute of the malfunction.</li> <li>● Properly troubleshoots all data link malfunctions.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
11. Communication Procedures	
<ul style="list-style-type: none"> <li>● Communicates/performs with standard terminology IAW the unclassified tactical aid, checklists, and FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Responds correctly to 90 percent or more of incoming calls.</li> <li>● Acknowledges all communications.</li> <li>● Communicates clearly and concisely with appropriate unit using standard radio procedures.</li> <li>● Make timely transmissions without blocking other radio calls.</li> <li>● Communicates using standard terminology and brevity.</li> <li>● Communicates precisely formatted radio transmissions.</li> <li>● Communicates properly during secure radio transmissions.</li> <li>● Correctly utilizes brevity terms.</li> </ul>
12. Crew Resource Management/TCC	
<ul style="list-style-type: none"> <li>● Directs aircrew and other resources to minimize workload in order to enhance SA.</li> </ul>	<ul style="list-style-type: none"> <li>● Directs aircrew using standard communications.</li> <li>● Communicates with brevity to crewmembers.</li> <li>● Coordinates with crewmembers to conduct mission duties.</li> <li>● Makes timely recommendations to maintain aircraft flight parameters through all regimes of flight.</li> <li>● Uses appropriate interaction between crewmembers with regard to normal procedures.</li> <li>● Uses SA building communications with crewmembers.</li> <li>● Demonstrates the use of all CRM/TCC skills to effectively use all resources, information, and knowledge to guide the crew to the successful achievement of all tasks in flight.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
13. Prioritization	
<ul style="list-style-type: none"> <li>Manages task loading in the proper order of precedence per FTI-recommended minimum requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Effectively prioritizes task loading in order of importance.</li> </ul>
14. Scan	
<ul style="list-style-type: none"> <li>Exhibits proper recognition of system and flight instrumentation.</li> </ul>	<ul style="list-style-type: none"> <li>Recognizes any abnormal system indications within one minute.</li> <li>Makes required altitude calls.</li> </ul>
15. Debrief	
<ul style="list-style-type: none"> <li>Properly participates in debrief.</li> </ul>	<ul style="list-style-type: none"> <li>If appropriate, acknowledges unusual deviations, potential hazardous conditions, or unusual operations to controlling authority.</li> <li>Reports status of mission objectives.</li> <li>Is receptive to constructive feedback, taking responsibility for student errors, and discusses proactive measures to improve performance.</li> <li>Recalls specifics of the mission and is able to accurately assess aircrew performance.</li> </ul>
16. Aerial Refueling	
<ul style="list-style-type: none"> <li>Directs aerial refueling procedures.</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes proper radio procedures as it pertains to aerial refueling.</li> <li>Properly manages time considerations as it pertains to air refueling.</li> <li>Directs aerial refueling procedures IAW publications and checklists.</li> </ul>
17. Case I/III Procedures	
<ul style="list-style-type: none"> <li>Performs and monitors Case I/III procedures.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct Case I/III procedures IAW publications and checklists.</li> <li>Utilizes proper radio procedures during Case I/III.</li> <li>Recognizes deviations from Case I/III recovery procedures.</li> <li>Recognizes recovering assets' fuel states.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
18. Electro-Optical/Infrared Utilization	
<ul style="list-style-type: none"> <li>● Performs EO/IR operations with the aid of checklists and mission tasking brief.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly operates all functions of the EO/IR equipment.</li> <li>● Properly operates the EO/IR equipment to determine static and dynamic contacts.</li> <li>● Monitors the status of the EO/IR equipment and acknowledges sensor degradations within one minute of the malfunction.</li> <li>● Properly trouble shoots all EO/IR equipment malfunctions.</li> </ul>
19. Surface/Littoral Surveillance	
<ul style="list-style-type: none"> <li>● Performs surface surveillance procedures upon arriving on-station with the aid of checklists, mission tasking brief, and sensor utilization.</li> </ul>	<ul style="list-style-type: none"> <li>● Completes sensor status checks as it pertains to surface surveillance.</li> <li>● Directs aircraft altitude and position for optimal coverage.</li> <li>● Reports unusual or suspicious actions or activity IAW mission tasking brief within five minutes of recognition to applicable Warfare Commanders.</li> </ul>
20. DCA Support	
<ul style="list-style-type: none"> <li>● Supports DCA operations.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly positions aircraft for DCA aerial refueling support.</li> <li>● Recognizes DCA asset fuel states based on radio communications.</li> <li>● Maintains proper threat standoff.</li> </ul>
21. Strike Support	
<ul style="list-style-type: none"> <li>● Supports Strike operations.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly positions aircraft for Strike aerial refueling support.</li> <li>● Recognizes Strike asset fuel states based on radio communications.</li> <li>● Maintains proper threat standoff.</li> </ul>

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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. Advanced MQ-25 NAVOTS Master Curriculum Guide	CNATRAINST 1542.193	1
b. NAVOTS Flight Training Instructions	Various	1

2. Major Training Device. 2B51 Multi-Crew Simulator quantity controlled by Naval Air Warfare Center Training Systems Division (NAVAIRWARCENTRASYS DIV), Training Material Management Division, Inventory Control Branch (Code 5204).

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