NAVAL AIR TRAINING COMMAND

NAS CORPUS CHRISTI, TEXAS **CNATRAINST 1542.194**
CIN Q-2A-1055 **7 Jan 2022**

CHIEF OF NAVAL AIR TRAINING

NATIONAL AERONAUTICAL AND SPACE ADMINISTRATION (NASA) ASTRONAUT CANDIDATE (ASCAN) BASIC AVIATION CURRICULUM (BAC)

2022

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

CNATRAINST 1542.194
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CNATRA INSTRUCTION 1542.194

From: Chief of Naval Air Training

Subj: NATIONAL AERONAUTICAL AND SPACE ADMINISTRATION ASTRONAUT CANDIDATE BASIC AVIATION CURRICULUM

1. Purpose. To publish the curriculum for training Astronaut Candidates (ASCANs) in the National Aeronautical and Space Administration ASCAN Basic Aviation Curriculum 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 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, Department of Defense, Secretary of the Navy, 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 computer program. Additional copies of CNATRA forms are available on the CNATRA website https://www.cnatra.navy.mil/pubs-forms.asp.

K. H. DELANO
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 Website, https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx.

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CHAPTER X. MASTER MATERIALS LIST

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SUMMARY OF CHANGES

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COURSE DATA

1. Course Title. National Aeronautical and Space Administration (NASA) Astronaut Candidate (ASCAN) Basic Aviation Curriculum (BAC).

2. Course Identification Number (CIN). ASCAN BAC, Q-2A-1055.

3. Location(s). Naval Air Station (NAS) Pensacola.

4. Course Status. Active.

5. Course Mission. The ASCAN BAC is designed to provide NASA military, civilian, and international Astronaut Candidates (ASCANs) with the knowledge, skills and abilities required to safely aviate, navigate, and communicate in preparation for follow-on training and responsibilities as NASA flight crew. The course is intended for all Astronaut Candidates that have not had previous military aviation training.

6. Prerequisite Training. Aviation Physiology and Aircrew Water Survival (B-4N-0102) conducted at NAS Pensacola during initial preparation week preceding flight training. Land survival is not a prerequisite for this course. Additionally, 35 computer-assisted instruction (CAI) lessons (listed on pages II-2 thru II-5) are expected to be completed prior to commencing this curriculum. These CAI lessons may be accomplished before arrival in Pensacola or during the initial Physiology/Admin week, but no later than the first day of training at Training Air Wing SIX. These lessons will not be tracked or otherwise accounted for in the CNATRA approved T/LMS.

7. Security Clearance Requirements. None.

8. Follow-on Training. Assigned by NASA.

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.

14. Quota Control. CNO.

15. Course Training Subjects

a. ASCAN Training

(1) Administration

ADMINISTRATION		
Stage	**Symbol**	**Hours**
Check-in and Checkout	ADM0101-2	4.0
Totals		**4.0**

(2) Ground Training

GROUND TRAINING		
Stage	**Symbol**	**Hours**
Aviation Student Indoctrination	ASI0101-15	8.0
Systems Engineering 1	ENG0101-8	12.0
Systems Engineering 2 - UTD Cockpit Fams	ENG0201-2	4.5
NATOPS	NA0101-2	2.5
T-6A Ejection/Egress Brief and Trainer	NA0103	4.0
Emergency Procedures	EP0101-6	10.0
EP Boldface Procedures Exam	EP0107	1.5
VFR Communication	COM0101	2.0
Crew Resource Management	CRM0101	2.0
Meteorology	MET0101-2	3.0
Instrument Navigation 1	NAV0101-9	12.0
Instrument Navigation 2	NAV0201-3	7.0
Instrument Navigation 3	NAV0301-8	14.5
Instrument Flight Planning	NAV0401-27	41.5
Totals		**124.5**

(3) Flight Support

FLIGHT SUPPORT		
Stage	**Symbol**	**Hours**
Familiarization 1	FAM1101-6	11.0
Familiarization 2	FAM1201-3	8.0
Totals		**19.0**

Note: FAM1201 is a formally scheduled event in the T-6A OFT. A Familiarization stage qualified simulator instructor shall be assigned to assist the ASCAN for this event.

(4) Flight Training

FLIGHT TRAINING						
Flight/Events	**T-6A UTD**		**T-6A OFT**		**T-6A Aircraft (Dual)**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Familiarization Procedures Training			4	6.0		
Day Familiarization					4	6.0
Night Familiarization					1	1.5
Instrument Navigation	6	9.0			6	9.0
Totals	**6**	**9.0**	**4**	**6.0**	**11**	**16.5**

Note: UTD events may be conducted in the OFT. OFT events must be conducted in the OFT unless elsewise directed by TRAWING Commander.

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

ADDITIONAL FORMAL TRAINING TIME PER EVENT			
Training Area	**Brief/ Preflight/ Taxi**	**Taxi/ Debrief**	**Total**
Flight Events: FAM4101 and NAV4101	2.5	1.5	4.0
Flight Events: All others	2.0	1.5	3.5
Simulator Events: All	0.5	0.5	1.0

17. Physical Requirements. As specified in the Manual of the Medical Department, Chapter 15, and all applicable anthropometric standards.

18. Obligated Service. As prescribed by NASA.

19. Primary Instructional Methods. Lecture, Mediated Interactive Lecture (MIL), Computer-Assisted Instruction (CAI), 2B47 Basic Instrument Navigation Trainer, self- and group-paced study, facility tours, T-6 A 2F207 Unit Training Device (UTD) and 2F208 Operational Flight Trainer (OFT) simulator instruction, and T-6A aircraft in-flight instruction.

20. Preceding Curriculum Data. None.

21. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate student 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.

ABBREVIATIONS

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

AGL	-	Above Ground Level
AGSM	-	Anti-Gravity Straining Maneuver
AIM	-	Aeronautical Information Manual
AOB	-	Angle of Bank
ASCAN	-	NASA Astronaut Candidate
ASR	-	Airport Surveillance Radar
ATC	-	Air Traffic Control
ATF	-	Aviation Training Form
ATIS	-	Automated Terminal Information Service
ATJ	-	Aviation Training Jacket
ATS	-	Approach Turn Stall
AWOS	-	Automated Weather Observing System
BAC	-	Basic Approach Configuration
BAR	-	Basic Airwork Recognition
BAW	-	Basic Airwork
CDI	-	Course Deviation Indicator
CFS	-	Canopy Fracturing System
CI		Contract Instructor
CIN	-	Course Identification Number
CNO	-	Chief of Naval Operations
CO	-	Commanding Officer
COMTRAWING SIX	-	Commander, Training Air Wing SIX
CRM	-	Crew Resource Management
CTAF	-	Common Traffic Advisory Frequency

CTS	-	Course Training Standard
DA	-	Decision Altitude
DME	-	Distance Measuring Equipment
DOR	-	Drop on Request
DRAFT	-	Destination, Route, Altitude, Fuel, Time
ELP	-	Emergency Landing Pattern
EOB	-	End of Block
EP	-	Emergency Procedure
ER	-	Event Rehearsal
ET	-	Extra Training
ETA	-	Estimated Time of Arrival
ETE	-	Estimated Time Enroute
FAA	-	Federal Aviation Administration
FAF	-	Final Approach Fix
FAM	-	Familiarization
FAR	-	Federal Aviation Regulations
FIH	-	Flight Information Handbook
FSS	-	Flight Service Station
FTI	-	Flight Training Instruction
FWOP	-	Fixed-Wing Operating Procedures
GCA	-	Ground-Controlled Approach
GPS	-	Global Positioning System
GPU	-	Ground Power Unit
H/X	-	Hours per Event
HEFOE	-	Hydraulic, Electrical, Fuel, Oxygen, Engine
IAF	-	Initial Approach Fix

IAW	-	In Accordance With
ICS	-	Intercommunication System
IFR	-	Instrument Flight Rules
ILS	-	Instrument Landing System
IP	-	Instructor Pilot
KIAS	-	Knots Indicated Airspeed
LECT	-	Lecture
LSC	-	Level Speed Change
MAF	-	Maintenance Action Form
MAP	-	Missed Approach Point
MCF	-	Mission Completion Fuel
MDA	-	Minimum Descent Altitude
MIF	-	Maneuver Item File
MIL	-	Mediated Interactive Lecture
MOA	-	Military Operating Area
MTR	-	Military Training Route
NAS	-	Naval Air Station
NASA	-	National Aeronautics and Space Administration
NATOPS	-	Naval Air Training Operating Procedures Standardization
NAVAID	-	Navigational Aid
NAVFLR	-	Naval Aviation Flight Record
NFO	-	Naval Flight Officer
NG	-	No Grade
NM	-	Nautical Mile(s)
NORDO	-	No Radio
NOTAMs	-	Notices to Airmen

OBOGS	-	On-Board Oxygen Generating System
OFT	-	Operational Flight Trainer
OLF	-	Outlying Field
OPSO	-	Operations Officer
PA	-	Precision Aerobatics
PAR	-	Precision Approach Radar
PAT	-	Power, Attitude, Trim
PCL	-	Power Control Lever
PEL	-	Precautionary Emergency Landing
PMSV	-	Pilot Meteorological Information Service
PMU	-	Power Management Unit
POS	-	Power Off Stall
PPEL	-	Practice Precautionary Emergency Landing
PTP	-	Point-to-Point
RA	-	Radar Approach
RIOT	-	Radio Instrument Orientation Trainer
RMU	-	Radio Management Unit
SA	-	Situational Awareness
SNFO	-	Student Naval Aviator
SOP	-	Standard Operating Procedure
SS	-	Self-Study
SSR	-	Special Syllabus Requirement
STAR	-	Standard Terminal Arrival Route
SUA	-	Special Use Airspace
TAD	-	Trim Aid Device
T/LMS	-	Training Learning Management System

TP	-	Trainer Practical
T-SHARP	-	Training - Sierra Hotel Aviation Readiness Program
TTO	-	Training Time Out
UHF	-	Ultra High Frequency
UNSAT	-	Unsatisfactory
UTD	-	Unit Training Device
VDP	-	Visual Descent Point
VFR	-	Visual Flight Rules
VHF	-	Very High Frequency
VMC	-	Visual Meteorological Conditions
VNAV	-	Visual Navigation
VOR	-	VHF Omnidirectional Range
XO	-	Executive Officer

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GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last numerical 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 second numerical character in the lesson designator identifies the block.

5. Check Ride (XX90). A flight check in any stage of training.

6. Course of Training. The entire program of preflight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.

7. Course Training Standard (CTS). Defines the behavior associated with each maneuver and standards or tolerances required to earn a grade of Good/4. These standards are in Chapter IX.

8. Courseware. The technical data, FTIs, audio, video, film, CAI, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.

9. 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.

10. Emergency Procedure (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.

11. End of Block (EOB). Last event in block. The student must meet or exceed MIF on all mandatory items and all demonstration items attempted in the block to progress past EOB.

12. Event. A scheduled period of prescribed instruction. It may be in an academic or laboratory classroom, a simulator, or flight environment.

13. Event Rehearsal (ER). A hard scheduled flight support simulator event designed to prepare the student for the current 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 will be specified for each event.

14. Extra Training (XX87). Additional student training events ordered by the CO in order to remediate training deficiencies.

15. Fixed-Wing Operating Procedures Manual (FWOP). A Training Air Wing directive describing standard operating procedures for local fixed-wing aircraft.

16. 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.

17. Hours per Event (H/X). The resourced duration for each event, rounded to the nearest tenth of an hour.

18. 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 1550.6F CH-1 for further information. This MCG utilizes the following lesson designators:

Char	**Meaning**	**Remarks**		
1st – 3rd	Stage	ADM – Administration ASI - Aviation Student Indoctrination COM - VFR Communication	CRM - Crew Resource Management ENG - Engineering EP - Emergency Procedures	FAM - Familiarization MET -Meteorology NAV - Instrument Navigation NA - NATOPS
4nd	Media	0 - Ground Event 1 - Academics	2 - CPT 3 - Simulator	4 - Aircraft
5th	Block	Sequential, indicating block within stage.		
6th & 7th	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 - Initial Progress Check 89 - Final Progress Check 90 - Check Ride

19. 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.

20. Maneuver Item File (MIF). A chart listing the required maneuvers and associated proficiency levels for each block of training.

21. Master Curriculum Guide (MCG). A CNATRA instruction tailored to a specific phase of training.

22. Self-Study Events (SS). A hard scheduled flight support ground event designed to prepare the student for the current block of simulator training. This event may be scheduled as a monitored classroom event or it may be scheduled as individual unsupervised study time.

23. Special Syllabus Requirement (SSR). One-time, ungraded demonstration item(s).

24. Stage. A subdivision of a training phase, which is comprised of events leading to a single set of objectives, that are designated by a common symbol, e.g., Engineering or Navigation. Refer to CNATRAINST 1550.6F CH-1, Appendix D, for further information.

25. Standard Operating Procedure (SOP). An instruction or directive that provides guidance on TRAWING or squadron operating rules for local aircraft.

26. Training Media. ASCAN syllabus media include aircraft, simulator (UTD/OFT), and ground training and flight support lectures consisting of MILs, CAIs, lectures, and exams. The first numerical character in the lesson identifier designates the training media. Refer to CNATRAINST 1550.6F CH-1 for further information.

27. 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 NSF or the instructor may call a TTO.

28. 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.

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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 IAW CNATRAINST 1550.6F CH-1.

e. Execution. All students execute Chapters II through VIII.

f. Syllabus Description. ASCAN BAC events are flown in the T-6A training aircraft and simulators, and are divided into stages. Stages are grouped by like-flight training regimes such as Familiarization or Instrument Navigation. Each stage may be subdivided into training blocks, and 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) See page I-5 for a depiction of ASCAN BAC course flow. This flowchart delineates the sequence of events and prerequisites. System training management is designed to facilitate up to two graded events (flight, simulator, exam, or combination thereof) per ASCAN per day. A maximum of three events is allowed with CO, XO or Ops O approval.

(2) ASCANs may be enrolled in both the Familiarization and Instrument Navigation stages simultaneously. Other than noted exceptions, syllabus events shall be flown sequentially within each stage. ASCANs must complete all events in this syllabus unless waived by NASA.

(3) The first simulator event in stage must be completed within 21 calendar days of the associated flight support lecture(s). The associated flight support lecture(s) must be repeated if 21 or more days have elapsed.

(4) The first simulator event in stage shall not be scheduled on the same day as the associated flight support lecture(s) unless the flight support lecture(s) is being repeated due to exceeding the 21 day limit.

b. Maneuver Continuity. Students must accomplish previously graded procedures frequently enough to ensure required proficiency is maintained.

c. Hours per Event (H/X). Instructors shall plan and execute missions to meet MCG stated H/X as closely as practical. If actual event length varies from MCG stated H/X by more than 0.3 hours (greater or less than), the instructor shall annotate reason(s) in the ATF's general comments section. Note, lesser only applies to flight events. Simulator events deemed complete when the student receives at least the full training period as specified in the MCG. Refer to CNATRAINST 1500.4J, section 605, for further clarification.

d. Location of Training. ASCAN BAC events may be accomplished at home station or on cross-country flights, where applicable.

e. Special Syllabus Requirements (SSR). SSRs may be allocated to blocks. Unless noted otherwise, instructors may accomplish SSRs on any flight within the block. The SSRs shall be completed in the specified block. Annotate completed SSRs in the following places on the ATF: specify the SSR completed in the Comments section, assign NG/1 as the SSR maneuver grade, and date/save SSR exposure on the T/LMS SSR tab.

3. Unsatisfactory (UNSAT) Performance. All training shall be suspended following an UNSAT event, except as addressed or authorized in this MCG. This curriculum is primarily intended as demo/exposure; however, grading is essential in some areas to endure safety of flight, and for feedback purposes. No remediation or refly events are planned. In the unlikely event that performance is unsatisfactory, Training Air Wing SIX should contract the NASA Liaison Officer for further direction.

4. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) 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 events training block.

(b) A flight profile tailored to training requirements, weak areas, and continuity.

(c) The latest ATF for the stage.

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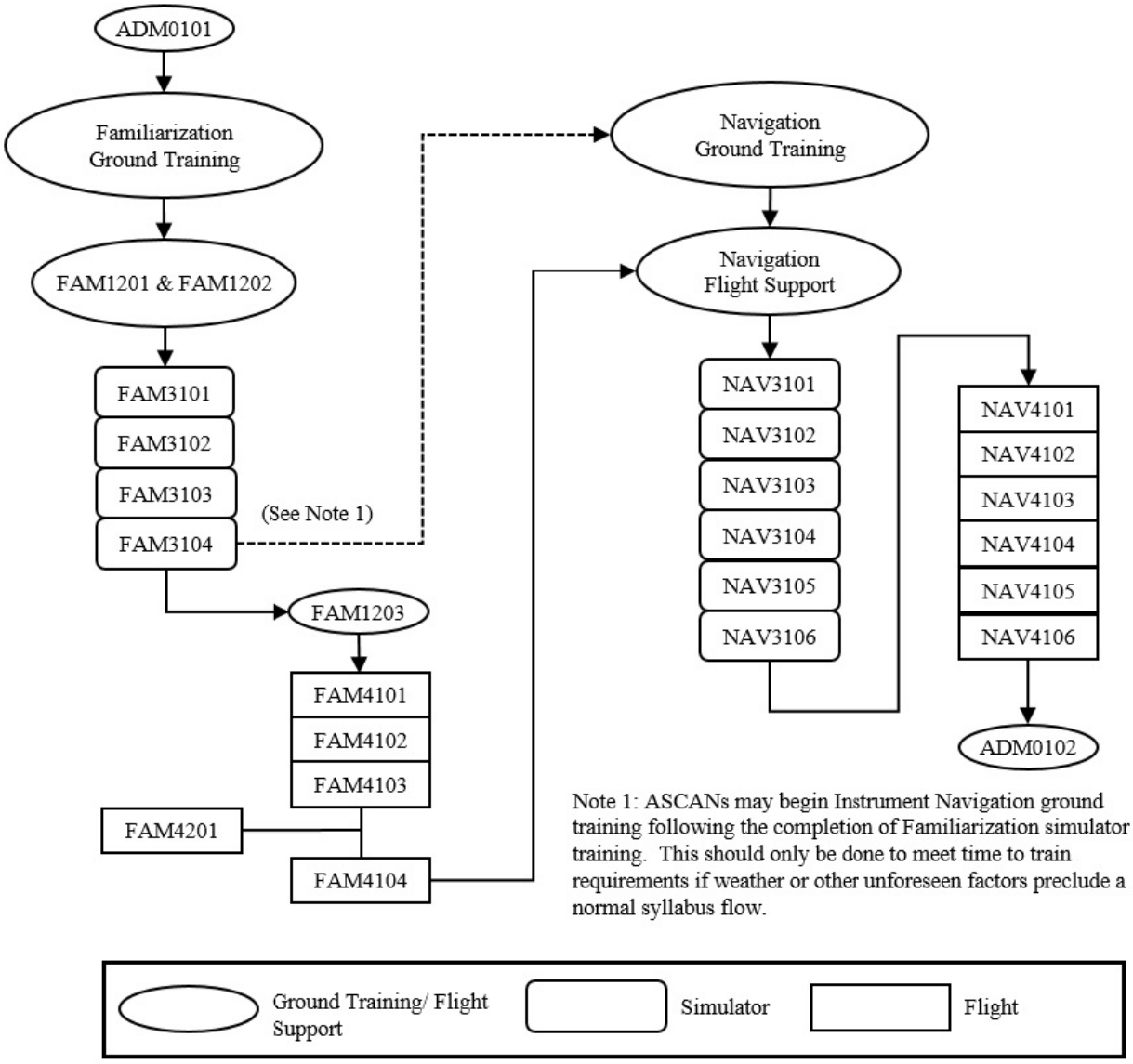
ASCAN BAC COURSE FLOW



(2) Briefing. The instructor shall review the ASCAN'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.

(3) Debriefing

(a) After each event, the instructor shall critique the ASCAN'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. For simulator events conducted by Contract Instructors, at no time shall the debrief time be less than MCG stated time. In some cases, an extended CI debrief may be required due to student performance.

(c) Debriefing must be detailed and comprehensive. The ATF shall be completed IAW CNATRAINST 1500.4J prior to the ASCAN's next event. Exceptions may be made for out-and-ins and cross-country flights. In such instances, the ASCAN will be provided feedback on performance as soon as possible following the event.

b. Emergency Procedures (EP) Briefing and Training

(1) EP training builds the student's confidence in the aircraft. The instructor shall conduct EP training on all aircraft events, either on the ground or in the aircraft. Correct procedural deficiencies through additional instruction and study assignments.

(2) Incorporate EP training into trainer events when practical; however, instructional block objectives take precedence.

(3) Grade the student's overall EP knowledge and performance under EPs.

5. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. The intent of this training is exposure to aviation, therefore ASCAN performance expectations for all simulator and flight events will be a MIF of "2." Instructors should grade the individual CTS items according to the descriptions below, but performance below prescribed MIF on the block grade sheet does not constitute failure, nor

should it prevent progression of training. For performance deemed unsatisfactory, refer to item number 3 of this chapter. There are no EOB "check rides" in this syllabus.

b. Grading Procedures (Aircraft and Training Devices)

(1) Absolute Maneuver Grading. Use the following grading scale to document the student's characteristic performance on maneuvers attempted during each event. This is an absolute grading scale. Judge the student's proficiency only against the item's CTS. Maneuver grades shall be consistent with the ATF comments.

(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, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Characteristic performance is within CTS. Deviations outside CTS are allowed, provided they are brief, minor, and do not affect safety of flight. Corrections must be appropriate and timely.

(e) Excellent (E/5 Level). Greatly surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. The student initiates corrections, if required, and they are appropriate, smooth, and rapid.

(2) Overall Event Grades. Overall event grades represent the student's progression through the syllabus. Grade events "Pass" or "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. Progress is adequate to meet standards by EOB.

2. EOB. The student's performance meets or exceeds standards.

(b) UNSAT. Student exhibits dangerous tendencies or progress toward meeting EOB standards is insufficient. UNSAT overall is at the instructor's discretion. It should be noted that an event may be graded UNSAT without any individual maneuvers graded 2/Unable.

(3) Awarding Overall Event Grades. The overall grade is based on the ASCAN's performance against the MIF.

(4) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus sign (+) are mandatory.

(b) Demonstration Items. Items with a number "1" are demonstration items.

(c) Not Demonstrated/Not Performed. The instructor will not demonstrate, nor will the student perform:

1. Unnumbered items.

2. Items not in the stage.

3. Exceptions:

a. Weather-driven instrument approaches.

b. Prebriefed maneuvers for instructor proficiency.

(5) Incomplete Events. In general, flight instructors should consider an event complete if the ASCAN was able to accomplish a sufficient amount of the planned profile. This rule is particularly true when weather precludes finishing all maneuver items, and the instructor is able to emphasize training where weather permits. Subsequent events in the block, when available, can reverse this emphasis, hence achieving overall training balance.

(a) Assessment. Assess the event complete if:

1. Seventy-five percent of the event's hours per event (H/X) were used for training, and

2. There are sufficient events remaining in block to allow for completion of all remaining required maneuvers.

3. Otherwise, assess the event incomplete.

(b) Completion Events. An event may both complete a previous event and count as an advancing 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 comment 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.

6. Special Instructions and Restrictions

a. Flight Hour/Event Requirements and Restrictions

(1) Programmed Hours and Events. Programmed syllabus flight hours are 16.5 hours.

(2) Minimum Night Hours. 1.5 hours.

(3) Minimum Solo Hours. N/A.

(4) Minimum Instrument Hours (Actual or Simulated). N/A.

(5) Maximum Daily Student Activities (Aircraft, Simulator or Exams). ASCANs shall not exceed two graded flight, simulator, and/or exam events during one duty day without prior CO, XO or Ops O approval.

(6) Minimum Turn-Times. One hour is required between the end of a scheduled debrief and the beginning of a scheduled brief for a follow-on flight, simulator event, or lecture. In the event that the student becomes delayed due to maintenance, weather, or other unplanned factors, the instructor shall ensure the ASCAN receives adequate time to rest and prepare for the next event. This does not apply to out-and-in or cross-country profile flights in the airplane; however, in all circumstances, the instructor shall ensure adequate debrief and brief time is allocated.

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

(8) Crew Rest. A minimum of 12 hours shall elapse between the conclusion of the last scheduled event of the day (including associated debrief) and the first scheduled event (including associated brief) of the following day. After six consecutive scheduled days, ASCANs shall receive one day off.

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

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

d. Airspace Utilization. Conduct training events in designated areas. Events may be conducted as out-and-ins or cross country flights with squadron OPSO approval.

e. Aircraft/Simulator Interchangeability

(1) Simulator events may be conducted in the aircraft when the UTD or OFT is unavailable for extended periods of time.

(2) Aircraft events may not be conducted in the UTD or OFT unless requested by Commander, Training Air Wing SIX and approved by the appropriate NASA Liaison Officer.

Chapter II

Ground Training

Prerequisite Training. Due to the unique nature of NASA ASCAN training and the desire to streamline the educational process, NASA ASCANs shall be required to accomplish all relevant Computer Aided Instruction (CAI) lessons prior to commencing formal ground training at Training Air Wing SIX. The CAI lessons listed on pages II-2 through II-5 shall be completed by each ASCAN, however these lessons will not be tracked or reported complete as part of formal syllabus tracking in the CNATRA approved Training/Learning Management System, and they will not be included in CNATRA Time to Train (TTT) calculations.

Blk #	Media	Title	Events	Hrs	Blk Name
N/A	CAI	Systems Engineering Prerequisite Training	16	13.0	SYS1

1. Prerequisite. None.

2. Events

	CAI	Flight Controls	1.0
	CAI	Hydraulic Systems 1	1.0
	CAI	Hydraulic Systems 2	1.0
	CAI	Flight Instruments 1	1.0
	CAI	Flight Instruments 2	1.0
	CAI	Communication Systems	1.0
	CAI	Navigation Systems	1.0
	CAI	GPS	1.0
	CAI	Electrical System	0.5
	CAI	Fuel System	0.5
	CAI	Propulsion 1	0.5
	CAI	Propulsion 2	0.5
	CAI	Environmental System 1	0.5
	CAI	Environmental System 2	0.5
	CAI	Canopy System	1.0
	CAI	Ejection System	1.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
N/A	CAI	NATOPS Prerequisite Training	5	3.5	NATOPS

1. Prerequisite. None.

2. Events

CAI	Exterior Inspection	1.0
CAI	Pre-Flight Checks	1.0
CAI	In-Flight Checks	0.5
CAI	Post-Flight Checks	0.5
CAI	Aircraft Operating Limitations	0.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
N/A	CAI	Meteorology Prerequisite Training	4	4.0	METRO

1. Prerequisite. None.

2. Events

CAI	METARs, PIREPs, and TAFs	1.0
CAI	Weather Charts	1.0
CAI	Weather Forecasts and Advisories	1.0
CAI	DD-175-1	1.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
N/A	CAI	Instrument Navigation Prerequisite Training	10	8.5	INST

1. Prerequisite. None.

2. Events

CAI	Instrument Displays and Cross-check	1.0
CAI	Introduction to Radio Instruments	1.0
CAI	FLIP, NOTAMs, and Charts	1.0
CAI	Instrument Takeoff and Departures	0.5
CAI	Arrival Preparation and Holding	0.5
CAI	Descent and Penetration	1.0
CAI	Low Altitude Approaches	0.5
CAI	Final Approach	1.0
CAI	Radar Approaches	1.0
CAI	Transition to Landing and Missed Approach	1.0

3. Syllabus Notes. None.

4. Discuss Items. None.

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

1. Prerequisites. FAM4104, FAM4201 and NAV4106 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
ASI01	Class	Aviation Student Indoctrination	15	8.00	ASI

1. Prerequisites

   a. ADM0101 prior to ASI0101-13 (any order).

   b. ASI0113 prior to ASI0114.

   c. ASI0114 prior to ASI0115.

2. Events

ASI0101	Lect	VT-10 Orientation	1.00
ASI0102	Admin	Medical Records Check-In	1.00
ASI0103	Admin	Paraloft Check-In Brief	1.50
ASI0104	Lect	VT-10 CO Brief	0.25
ASI0105	Lect	VT-10 XO Brief	0.25
ASI0106	Lect	Safety Briefing	0.25
ASI0107	MIL	Introduction to Safety	0.25
ASI0108	MIL	Ground Safety ORM	0.25
ASI0109	Lect	Aviation Safety Program	0.25
ASI0110	Lect	Academic Welcome Aboard	0.50
ASI0111	Lect	Contract Instructor Services Introduction	0.50
ASI0112	Lect	TSHARP In-Brief	0.50
ASI0113	Lab	Electronic Knee Board Issue	0.50
ASI0114	Lect	Pubs/Materials Inventory	0.50
ASI0115	Lect	Airsickness Management Program	0.50

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
ENG01	Class	Systems Engineering 1	8	12.0	SYS1

1. Prerequisite. ASI01014 prior to ENG0101-8 (in order).

2. Events

ENG0101	MIL	Introduction to T-6 Systems	1.0
ENG0102	MIL	Flight Controls and Hydraulics Review	2.0
ENG0103	MIL	Flight Instruments Review	1.0
ENG0104	MIL	Communications and Navigation Systems Review	2.0
ENG0105	T-6A	T-6A Aircraft Systems Tour	2.0
ENG0106	MIL	Electrical and Fuel Review	1.0
ENG0107	MIL	Propulsion Review	1.0
ENG0108	MIL	Environmental, Canopy, & Ejection Review	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
ENG02	Lect/ UTD	Systems Engineering 2 – UTD Cockpit Fam	2	4.5	SYS2

1. Prerequisite. ENG0101 prior to ENG0201-2 (in order).

2. Events

ENG0201	Lect/ UTD	T-6A Cockpit Familiarization 1	3.0
ENG0202	Lect/ UTD	T-6A Cockpit Familiarization 2	1.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
NA01	Class	NATOPS	3	6.5	NATOPS

1. Prerequisite. ENG0108 prior to NA0101-3 (in order).

2. Events

NA0101	MIL	Introduction to Operation Procedures and NATOPS	1.0
NA0102	Lect	Operating Procedures (OPs) and NATOPS Review	1.5
NA0103	Lect	T-6A Ejection/Egress Brief and Trainer	4.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
EP01	Class	Emergency Procedures	7	11.5	EPPROC

1. Prerequisite. NA0102 prior to EP0101-7 (in order).

2. Events

EP0101	MIL	Handling Emergency Procedures	1.0
EP0102	MIL	Takeoff Emergencies	1.0
EP0103	MIL	In-Flight Emergencies 1	2.5
EP0104	MIL	In-Flight Emergencies 2	2.0
EP0105	MIL	In-Flight Emergencies 3	2.0
EP0106	Lect	Emergency Procedures Boldface Review	1.5
EP0107	P/P Exam	Emergency Procedures Boldface Exam	1.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
COM01	Class	VFR Communication	1	2.0	VFRCOM

1. Prerequisite. ENG0108 prior to COM0101.

2. Events

COM0101	MIL	T-6A Introduction to Communications	2.0

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. ENG0108 prior to CRM0101.

2. Events

CRM0101	MIL	T-6A Crew Resource Management	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
MET01	Class	Meteorology	2	3.0	METRO

1. Prerequisite. ENG0108 prior to MET0101-2 (in order).

2. Events

MET0101	MIL	Introduction to Metro	1.0
MET0102	MIL	Application of Weather Data	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
NAV01	Class	Instrument Navigation 1	9	12.0	INST1

1. Prerequisite. FAM3104 prior to NAV0101-9 (in order).

2. Events

NAV0101	MIL	Introduction and Basic Instruments Overview	1.0
NAV0102	MIL	Basic Instrument Review	3.0
NAV0103	MIL	Intro to 2B47/TP-1 Brief	1.0
NAV0104	Lect	CR-2, Wind Analysis, and Time Gates	0.5
NAV0105	MIL	Instruments Review 1	2.0
NAV0106	MIL	Holding Lecture (6Ts)/Holding Trainer	1.5
NAV0107	Lect	TP-2 Brief	0.5
NAV0108	Lect/ 2B47	TP-2 Fly	1.5
NAV0109	Lect	FLIP Review and CR-2 Exercises	1.0

3. Syllabus Notes. None.

4. Discuss Items. None

Blk #	Media	Title	Events	Hrs	Blk Name
NAV02	Class	Instrument Navigation 2	3	7.0	INST2

1. Prerequisite. NAV0109 prior to NAV0201-3 (any order).

2. Events

NAV0201	MIL	Instruments Review 2/Homework Review	2.5
NAV0202	MIL	Instruments Review 3	3.0
NAV0203	MIL	Instruments Review 4	1.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
NAV03	Class	Instrument Navigation 3	8	14.5	INST3

1. Prerequisite. NAV0201-3 prior to NAV0301-08 (in order).

2. Events

NAV0301	Lect	TP-5 Brief/Planning Lab	2.0
NAV0302	Lect/ 2B47	TP-5 Fly	2.0
NAV0303	Lect	TP-5 Debrief	1.5
NAV0304	Lect	TP-7 Brief/TP-7R Brief/Planning Lab	2.0
NAV0305	Lect/ 2B47	TP-7 Fly	2.0
NAV0306	Lect	TP-7 Debrief	1.0
NAV0307	2B47	TP-7 Return Fly	2.0
NAV0308	Lect	TP-7 Return Debrief/Course Critique	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
NAV04	Class	Instrument Flight Planning	27	41.5	FLTPLNG

1. Prerequisite. NAV0308 prior to NAV0401-27 (in order).

2. Events

NAV0401	MIL	Flight Planning Introduction and Overview	0.5
NAV0402	MIL	Weather Requirements	1.5
NAV0403	MIL	DD-1801	1.5
NAV0404	MIL	Flight Logs	1.0
NAV0405	MIL	IFR Navigation 1	1.5
NAV0406	Lect	TP-8 Brief	1.5
NAV0407	Lect	TP-8 Planning Lab	2.0
NAV0408	Lect/ 2B47	TP-8 Fly	2.5
NAV0409	Lect	TP-8 Debrief	0.5
NAV0410	Lect	TP-9 Brief	0.5
NAV0411	Lect	TP-9 Planning Lab	1.5
NAV0412	Lect/ 2B47	TP-9 Fly	2.5
NAV0413	Lect	TP-9 Debrief	1.0
NAV0414	Lect	TP-9 DD-1801 and Flight Log Critique/Procedures Review	0.5
NAV0415	Lect	TP-11 Brief	1.5
NAV0416	Lect	TP-11 Planning Lab	2.0
NAV0417	Lect/ 2B47	TP-11 Fly (Localizer Approach, Terminal Area Delay)	2.5
NAV0418	Lect	TP-11 Debrief	1.0

2. Events (cont.)

NAV0419	Lect	TP-11 DD-1801 and Flight Log Critique/Procedures Review	0.5
NAV0420	Lect	TP-12 Brief	1.5
NAV0421	Lect	TP-12 Planning Lab	2.0
NAV0422	Lect/ 2B47	TP-12 Fly (Change in Flight Plan)	2.5
NAV0423	Lect	TP-12 Debrief	1.0
NAV0424	Lect	TP-12 DD-1801 and Flight Log Critique/Procedures Review	0.5
NAV0425	MIL	Flight Line Preparation	1.0
NAV0426	Lect	Nav Simulator Preparation	3.0
NAV0427	Lab	KLN-900 Procedures and Usage	4.0

3. Syllabus Notes. None.

4. Discuss Items. None.

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Chapter III

NATOPS Training

This chapter does not apply to ASCAN training.

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Chapter IV

Familiarization Flight Training

1. General. Initial instruction should focus on determining the instructional approach best suited for each student's problem areas so that mission profiles can be flown to correct deficient areas.

2. Pattern Training. Utilize the overhead/break traffic pattern as much as possible for pattern training.

3. Navigation. When possible, home and auxiliary field departures and recoveries should be visual with the assistance of the local area map. Weather may require the instructor to use navigational aids in place of visual navigation.

4. Simulator EP Training. For simulator Emergency Procedure training, the student is expected to correctly identify the given malfunction and provide the boldface procedures without error to achieve the grade of 3/Fair. Experience handling ground and in-flight emergencies, including the use of the Pocket Check List (PCL) or Electronic Knee Board (EKB), is expected to be gained throughout Familiarization flight training.

5. Seating. ASCANs shall occupy the front seat for all events in the FAM stage, except the Night FAM event. ASCANs shall occupy the rear seat during FAM4201 Night FAM.

6. Matrices. The following matrix is an overview of the entire Familiarization Stage. The purpose of this matrix is to provide the student and IP 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.

7. Familiarization Stage MIF

Simulator Event
CTS REF "N" = NATOPS

FAMILIARIZATION STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**FAM3104**	**FAM4104**	**FAM4201**
1	General Knowledge/Procedures	3+	4+	4+
2	Emergency Procedures		4+	4+

MIF continued on next page.

FAMILIARIZATION STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**FAM3104**	**FAM4104**	**FAM4201**
3	Headwork/Situational Awareness		3+	3+
4	BAW/BAR		4+	3+
N	Strap-In/Interior Inspection	3+		
8	Ground Procedures		4+	2+
9	Radio Procedures	3+	3+	3+
N	Engine Start	3+		
N	Start Malfunctions	3+		
N	Fire Warning on the Ground	3+		
N	Emergency Ground Egress	3+		
N	Before Taxi/Taxi Checklists	3+		
N	Overspeed Governor Check	3+		
N	Before Takeoff/Lineup Checks	3+		
N	Takeoff Abort	3+		
N	Emergency Engine Shutdown (Ground)	3+		
10	Takeoff		4+	1
11	Departure		4+	4+
N	After Takeoff/Climb Checklists	3+		
N	Operations Check	3+		
12	In-Flight Checks		4+	4+
13	Use of Controls/Trim		3+	2+
14	Basic Transitions		3+	2+
15	Visual Scan/Lookout Doctrine		4+	3+
17	In-Flight Planning/Area Orientation		3+	3+
18	Level Speed Change	2+	3+	
19	Turn Pattern	2+	4+	
20	Power-Off Stall	2+	3+	
21	Approach Turn Stall	2+	3+	

MIF continued on next page.

FAMILIARIZATION STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**FAM3104**	**FAM4104**	**FAM4201**
22	Spin	2+	3+	
23	Simulated Power Loss	2+	3+	
24	PPEL	2+	3+	3+
N	Descent/Before Landing Checklists	3+		
25	Landing Pattern	3+	4+	2+
26	Landings	2+	2+	1
27	Go Around/Waveoff	2+	3+	1
N	After Landing/Engine Shutdown Checklists	3+		
N	Uncommanded Propeller Feather	3+		
N	Engine Failure During Flight	3+		
N	Compressor Stalls	3+		
N	PMU Failure	1		
N	Fire Warning in Flight	3+		
N	Generator/Battery Bus Failure	1		
N	Low Fuel Pressure	3+		
N	OBOGS Inoperative	3+		
N	Smoke or Fume Elimination	3+		
N	Oil System Malfunctions	3+		
N	Use of Canopy Fracturing System	3+		
28	Course Rules		4+	1
N	Hydraulic Malfunctions	1		
N	Trim System/TAD Failure	1		
N	Canopy Unlocked	1		
N	Ejection	3+		
N	Inadvertent Departure From Controlled Flight	3+		
N	Landing Gear Emergency Extension	3+		
N	Emergency Landing Pattern	3+		

MIF continued on next page.

FAMILIARIZATION STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**FAM3104**	**FAM4104**	**FAM4201**
N	Precautionary Emergency Landing	3+		
	Special Syllabus Requirements		1	

Blk #	Media	Title	Events	Hrs	Blk Name
FAM11	Class	Familiarization 1	6	11.0	FAM1

1. Prerequisites

a. ASI0115, NA0103, EP0107, COM0101, CRM0101, ENG0202 and MET0102 prior to FAM1101.

b. FAM1101 prior to FAM1102-6 (in order).

2. Events

FAM1101	MIL	T-6A Familiarization 1 - Flight Line Preparation	1.0
FAM1102	MIL	T-6A Familiarization 2 - Ground Procedures	2.0
FAM1103	MIL	T-6A Familiarization 3 - Course Rules/Area 1/Military Operating Area (MOA)	2.0
FAM1104	MIL	T-6A Familiarization 4 – Flight Procedures/Night Flight	2.0
FAM1105	Lect	T-6A Familiarization 5 – Flight Prep & Event Chalk Talk	2.0
FAM1106	MIL	T-6A Familiarization 6 – Landing Pattern/EPs	2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
FAM12	Class	Familiarization 2	3	8.0	FAM2

1. Prerequisite. FAM1106 prior to FAM1201-3 (any order).

2. Events

FAM1201	ER/ OFT	FAM Event Rehearsal	1.5
FAM1202	SS/ Lab	FAM Self-Study	3.5
FAM1203	Lect/ T-6A	FAM Indoctrination Lecture	3.0

3. Syllabus Notes

a. FAM1201 is a formally scheduled event in the T-6A OFT. A Familiarization stage qualified simulator instructor shall be assigned to assist the ASCAN for this event.

b. FAM1203 shall be completed prior to FAM4101.

c. The ASCAN shall accomplish or simulate the following items during FAM1203:

(1) Canopy operation (exterior/interior), before exterior/interior inspections, complete strap-in (all gear), all ground checklists, cockpit familiarization (identify all electronic displays and their function), RMU/backup UHF control head operation, safety pins stowage, emergency ground egress (with and without CFS), and ejection.

(2) All ASCANs are required to successfully accomplish a boldface and OPS limit exam. Successful accomplishment of the boldface and OPS limit exam consists of 100 percent accuracy. Only minimal abbreviation will be acceptable. Less than 100 percent on the boldface and OPS limit exam shall be annotated on the grade sheet.

4. Discuss Items. Flight line expectations, scheduling/snivels, chain of command, class advisor program, ATF, ATJ, what-to-bring to brief, conduct of preflight briefings, discuss items, weather briefs, weight and balance, flight gear check, aircraft issue, MAF, ground safety, special syllabus requirements, procedures, emergency procedures, information resources, hangar/chair flying, DOR, TTO policy.

Blk #	Media	Title	Events	Hrs	H/X
FAM31	OFT	Familiarization Procedures Training	4	6.0	1.5

1. Prerequisites

a. FAM1201.

b. FAM1202.

2. Syllabus Notes

a. Instructor will demonstrate simulator console operation and device use on FAM3101.

b. FAM3101-4 shall be flown as VFR events in the T-6A OFT.

c. During EP training, the ASCAN is expected to correctly identify the given malfunction and provide the boldface procedures without error to achieve the grade of 3/Fair.

d. The ASCAN shall perform the emergency action items/emergency procedures for FAM3101-4.

e. The student will perform the following procedures on the indicated event.

FAM3101
Cockpit familiarization – includes complete strap-in; rudder pedal and seat adjustments; location of cockpit displays, switches, and engine controls; standby instruments; interior inspection; start checklist (include one GPU start); start malfunctions/abort start procedure; before taxi/taxi checklists; overspeed governor check; before takeoff checklist; lineup check; after takeoff checklist; operations check; climb checklist; descent checklist; before landing checklist; after landing checklist; engine shutdown checklist; radio procedures; OBOGS inoperative; and inadvertent departure from controlled flight.

FAM3102
All normal operating procedures, radio procedures, fire warning on the ground, emergency engine shutdown (ground), emergency ground egress/use of canopy fracturing system, aborted takeoff, fire warning in flight, generator/battery bus failure, low fuel pressure, oil system malfunctions, ELP, and PEL.

FAM3103
All normal operating procedures, radio procedures, uncommanded propeller feather, engine failure during flight, compressor stall, smoke or fume elimination, hydraulic malfunctions, canopy unlocked, ejection, emergency landing gear extension, and ELP (with PEL).

FAM3104
Radio procedures, Takeoff, Level Speed Change, Turn Pattern Power Off Stall, Approach Turn Stall and Spin. MOA, Entry/Exit Procedures, Simulated power loss (simulated and proactive EP in-flight procedures), ELP, PEL, Landing pattern: No Flap, Takeoff Flap, and landing flap Touch and Go's, Full stop landing procedures and course rules/recovery.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM3101
Simulator curriculum, student responsibilities for future simulator events, ATFs/grading procedures, conduct of event, strapping in, all normal checklists, and communication procedures.

FAM3102
ELP, CFS, and general discussion of all planned items from paragraph 2.d./FAM3102.

FAM3103
Ejection and the ejection decision, PMU, generator/battery bus inoperative, flight line expectations, and general discussion of all planned items from paragraph 2.d./FAM3103.

FAM3104
Level Speed Change, Turn Pattern, Power Off Stall, Approach Turn Stall, Spin, and landing pattern. MOA Entry/Exit Procedures, Simulated power loss (simulated and practice EP in-flight procedures), ELP, PEL, Landing pattern: No Flap, Takeoff Flap, and landing flap Touch and Go's, Full stop landing procedures, and Course rules/recovery.

5. Block MIF

CTS REF	MANEUVER	FAM3104
1	General Knowledge/Procedures	3+
N	Strap-In/Interior Inspection	3+
9	Radio Procedures	3+
N	Engine Start	3+
N	Start Malfunctions	3+
N	Fire Warning on the Ground	3+
N	Emergency Ground Egress	3+
N	Before Taxi/Taxi Checklists	3+
N	Overspeed Governor Check	3+
N	Before Takeoff/Lineup Checks	3+
N	Takeoff Abort	3+
N	Emergency Engine Shutdown (Ground)	3+
N	After Takeoff/Climb Checklists	3+
N	Operations Check	3+
18	Level Speed Change	2+
19	Turn Pattern	2+
20	Power-Off Stall	2+
21	Approach Turn Stall	2+
22	Spin	2+
23	Simulated Power Loss	2+
24	PPEL	2+
N	Descent/Before Landing Checklists	3+
25	Landing Pattern	3+
26	Landings	2+
27	Go Around/Waveoff	2+
N	After Landing/Engine Shutdown Checklists	3+
N	Uncommanded Propeller Feather	3+
N	Engine Failure During Flight	3+
N	Compressor Stalls	3+

MIF continued on next page.

CTS REF	MANEUVER	FAM3104
N	PMU Failure	1
N	Fire Warning in Flight	3+
N	Generator/Battery Bus Failure	1
N	Low Fuel Pressure	3+
N	OBOGS Inoperative	3+
N	Smoke or Fume Elimination	3+
N	Oil System Malfunctions	3+
N	Use of Canopy Fracturing System	3+
N	Hydraulic Malfunctions	1
N	Trim System/TAD Failure	1
N	Canopy Unlocked	1
N	Ejection	3+
N	Inadvertent Departure From Controlled Flight	3+
N	Landing Gear Emergency Extension	3+
N	Emergency Landing Pattern	3+
N	Precautionary Emergency Landing	3+

Blk #	Media	Title	Events	Hrs	H/X
FAM41	T-6A	Day Familiarization	4	6.0	1.5

1. Prerequisites

   a. FAM1203.

   b. FAM3104.

2. Syllabus Notes. The purpose of this block is to expose the ASCAN to T-6A flight line operations and the overall aviation environment. Emphasis should be placed on preflight briefings, procedural recall and individual maneuver item execution. It is highly encouraged and expected that all ASCANs attempt to perform all maneuvers and be at the controls to the maximum extent possible.

3. Special Syllabus Requirements

   FAM4101
   Anti-G straining maneuver.

   FAM4102, FAM4103, or FAM4104
   Tower-controlled field operations and No Flap, Takeoff Flap, and landing flap landings.

4. Discuss Items

   FAM4101
   NATOPS operating limitations, NATOPS ground emergencies, CFS, takeoff procedures, basic transitions, turn pattern, LSC, ATS, POS, trim, landing gear emergency extension, RMU/backup UHF control head operation, ejection, MOA, CRM, and any EP, any limitation.

   FAM4102
   Tower-controlled field operations, spins, OLF break entry, OLF operations, normal landing pattern, hydraulic system and malfunctions, engine failure immediately after takeoff (suitable landing area available), uncommanded prop feather, canopy unlocked, any EP, and any limitation.

   FAM4103
   PEL and ELP, engine failure during flight, immediate airstart (PMU norm), fire warning in flight, rapid decompression, any EP, and any limitation.

   FAM4104
   Fuel system failures, OBOGS inoperative, inadvertent departure from controlled flight, review contact maneuver procedures, any EP, and any limitation.

5. Block MIF

CTS REF	MANEUVER	FAM4104
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	BAW/BAR	4+
8	Ground Procedures	4+
9	Radio Procedures	3+
10	Takeoff	4+
11	Departure	4+
12	In-Flight Checks	4+
13	Use of Controls/Trim	3+
14	Basic Transitions	3+
15	Visual Scan/Lookout Doctrine	4+
17	In-Flight Planning/Area Orientation	3+
18	Level Speed Change	3+
19	Turn Pattern	4+
20	Power-Off Stall	3+
21	Approach Turn Stall	3+
22	Spin	3+
23	Simulated Power Loss	3+
24	PPEL	3+
25	Landing Pattern	4+
26	Landings	2+
27	Go Around/Waveoff	3+
28	Course Rules	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
FAM42	T-6A	Night Familiarization	1	1.5	1.5

1. Prerequisite. FAM4103.

2. Syllabus Note. Initial takeoff should be no earlier than 30 minutes after official sunset.

3. Special Syllabus Requirements. None.

4. Discuss Items. Airport lighting, night ground operations, night hand signals, T-6A interior and exterior lighting, tower Aldis lamp signals, pilot controlled airport lighting, night vision, Sidewinder® flashlight usage, and battery and generator failures.

5. Block MIF

CTS REF	MANEUVER	FAM4201
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	BAW/BAR	3+
8	Ground Procedures	2+
9	Radio Procedures	3+
10	Takeoff	1
11	Departure	4+
12	In-Flight Checks	4+
13	Use of Controls/Trim	2+
14	Basic Transitions	2+
15	Visual Scan/Lookout Doctrine	3+
17	In-Flight Planning/Area Orientation	3+
24	PPEL	3+
25	Landing Pattern	2+
26	Landings	1
27	Go Around/Waveoff	1
28	Course Rules	1

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Chapter V

Instrument Training

1. Seating. ASCANs shall occupy the rear cockpit of the aircraft during this stage.

2. Philosophy. The emphasis should be on general instrument navigation skills that can be applied to any aircraft. The flights are intended to provide introduction and exposure to the instrument flight environment while maximizing learning in a very demanding short course. The events will be graded, but there will be no refly events or check rides.

3. Matrices. The following matrices provide an overview of the Instrument Navigation Stage. The purpose of these matrices is to provide the student and IP 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.

4. Instrument Navigation Stage MIF

Simulator Event

INSTRUMENT NAVIGATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**NAV3106**	**NAV4106**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	3+	4+
4	BAW/BAR	4+	4+
5	Brief/Debrief	3+	4+
6	Mission Planning	3+	4+
7	ASCAN Responsibilities	4+	4+
8	Ground Procedures	4+	4+
9	Radio Procedures	3+	3+
11	Departure	4+	4+
12	In-Flight Checks	4+	4+
30	Use of ATIS/PMSV/FSS	3+	4+

MIF continued on next page.

INSTRUMENT NAVIGATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**NAV3106**	**NAV4106**
31	In-Flight Computations	3+	3+
32	CRM/Crew Coordination	4+	4+
33	In-Flight Briefings	3+	3+
34	Enroute Procedures	3+	3+
35	Arcing	3+	4+
36	Holding (GPS)	3+	3+
37	GPS Approach	3+	4+
38	Localizer Approach	3+	3+
39	ILS Approach	3+	4+
40	Circling Approach	3+	3+
41	RA/GCA	3+	3+
42	Missed Approach	3+	4+
43	Instrument Procedures	3+	4+
	Special Syllabus Requirements		1

Blk #	Media	Title	Events	Hrs	H/X
NAV31	UTD/OFT	Instrument Navigation	6	9.0	1.5

1. Prerequisite. NAV0427.

2. Syllabus Notes

a. Introduce and practice instrument navigation enroute procedures and instrument approach procedures.

b. ASCANs shall prepare and have available a DD-1801 and flight log for each event.

c. Once the ASCAN has met MIF on mandatory items, introduce real-world situations.

d. ASCANs shall practice at least one EP per event except on NAV3101. The instructor shall grade CTS #2 EP and annotate which emergency procedure was performed in the comments section of the ATF.

3. Special Syllabus Requirements. None.

4. Discuss Items

NAV3101
Crew coordination, radar approaches, radar vectors to final, PAR/ASR, ILS/LOC, missed approach/climbout procedures.

NAV3102
Approach plates, VOR/DME holding, arcing, VOR approach, instrument scan, instrument checklist, and the event scenario EP.

NAV3103
Loading GPS flight plan, GPS approach, and the event scenario EP .

NAV3104
Standard instrument departure, high-altitude airways structure, pilot's discretion descent, VOR approach procedures, and lost communications.

NAV3105
Localizer approach procedures, radar approach procedures, localizer back course approach, and the event scenario EP.

NAV3106
Loading GPS flight plan, GPS approach procedures, STARs, and unusual attitudes/vertigo, and the event scenario EP.

5. Block MIF

CTS REF	MANEUVER	NAV3106
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	BAW/BAR	4+
5	Brief/Debrief	3+
6	Mission Planning	3+
7	ASCAN Responsibilities	4+
8	Ground Procedures	4+
9	Radio Procedures	3+
11	Departure	4+
12	In-Flight Checks	4+
30	Use of ATIS/PMSV/FSS	3+
31	In-Flight Computations	3+
32	CRM/Crew Coordination	4+
33	In-Flight Briefings	3+
34	Enroute Procedures	3+
35	Arcing	3+
36	Holding (GPS)	3+
37	GPS Approach	3+
38	Localizer Approach	3+
39	ILS Approach	3+
40	Circling Approach	3+
41	RA/GCA	3+
42	Missed Approach	3+
43	Instrument Procedures	3+

Blk #	Media	Title	Events	Hrs	H/X
NAV41	T-6A	Instrument Navigation	6	9.0	1.5

1. Prerequisite. NAV3106.

2. Syllabus Notes. The purpose of this block is to expose the ASCAN to instrument flight in the T-6A. Emphasis should be placed on preflight briefings, procedural recall and individual maneuver item execution.

a. Flights should be flown as local events, but may be flown as out-and-in or cross-country events based on squadron requirements.

b. ASCANs shall prepare and have available a DD-1801 and flight log for both primary and alternate routes on each event.

c. Night Familiarization flight (FAM4201) shall be accomplished prior to any night Instrument Navigation flight.

3. Special Syllabus Requirements

NAV4101
GPS usage (load flight plan in GPS).

4. Discuss Items

NAV4101
High/Low chart symbology, lost communication procedures, GPS approach procedures (full approach vs. vectors to final) emergency engine shutdown, abort, and procedure turn approaches.

NAV4102
Special use airspace, engine failure immediately after takeoff, engine failure during flight, and missed approach/climbout procedures.

NAV4103
Immediate airstart (PMU NORM), uncommanded propeller feather, and departure procedure versus radar vectors.

NAV4104
Base ops planning (AP-1, NOTAMs, weather minimums for takeoff, approach, alternate), CTAF usage, and ejection.

NAV4105
Any EP, Class A operations, TCN, use of FSS/PMSV (in-flight change of flight plan, activate flight plans, and update weather).

NAV4106
CNAF M-3710.7 takeoff minimums, CNAF M-3710.7 fuel requirements, any EP, and any limitation.

5. Block MIF

CTS REF	MANEUVER	NAV4106
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	BAW/BAR	4+
5	Brief/Debrief	4+
6	Mission Planning	4+
7	ASCAN Responsibilities	4+
8	Ground Procedures	4+
9	Radio Procedures	3+
11	Departure	4+
12	In-Flight Checks	4+
30	Use of ATIS/PMSV/FSS	4+
31	In-Flight Computations	3+
32	CRM/Crew Coordination	4+
33	In-Flight Briefings	3+
34	Enroute Procedures	3+
35	Arcing	4+
36	Holding (GPS)	3+
37	GPS Approach	4+
38	Localizer Approach	3+

MIF continued on next page.

CTS REF	MANEUVER	NAV4106
39	ILS Approach	4+
40	Circling Approach	3+
41	RA/GCA	3+
42	Missed Approach	4+
43	Instrument Procedures	4+
	Special Syllabus Requirements	1

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Chapter VI

Operational Navigation Training

This chapter does not apply to ASCAN training.

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Chapter VII

Formation Training

This chapter does not apply to ASCAN training.

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Chapter VIII

Tactical Training

This chapter does not apply to ASCAN training.

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Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of ASCANs during the execution of this syllabus.

2. ASCAN Duties and Responsibilities

a. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.

b. Operate the aircraft to accomplish the mission using sound judgment and airmanship.

3. General Standards

a. Achieve training standards for VMC maneuvers in conjunction with visual clearing.

b. Unless otherwise specified, use BAW/BAR standards for all items with altitude, airspeed or heading parameters.

c. "Standard" equates to ***good*** (G/4).

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

e. 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. Instructor pilots 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 ASCAN…"

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.

7. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
● Maintain working knowledge of all appropriate flight training instructions and directives.	● Recites, discusses, and/or performs all applicable items essential to the operation of the aircraft and completion of the mission with minimal deficiencies not pertaining to safety of flight.
2. Emergency Procedures	
● Perform critical action emergency procedures. ● Maintain in-depth knowledge of all NATOPS emergency procedures. ● Utilize the Pocket Checklist IAW NATOPS and FTI guidelines.	● Correctly analyzes situation given real or hypothetical scenarios. ● Recites critical action steps from memory without error (100 percent boldface accuracy). ● Is proficient with all information contained in the PCL, is able to utilize the checklist in a correct and timely manner.
3. Headwork/Situational Awareness	
● Comply with the FTI, SOP, and NATOPS while maintaining situational awareness commensurate with safety-of-flight and mission objectives.	● Has knowledge of all rules and regulations and carries out all duties with minimum supervision. ● Foresees and avoids possible difficulties by making recommendations that enhance the situation and/or overall mission effectiveness. ● Remains alert and oriented during all phases of the event. ● Maintains overall awareness with regard to fuel state, aircraft configuration, traffic in vicinity of own ship, and dynamic weather conditions.
4. Basic Airwork/Basic Airwork Recognition (BAW/BAR)	
● Monitor/direct aircraft control and perform an instrument/composite scan as appropriate to maintain planned navigation parameters, ATC clearances and assigned altitude, airspeed, and heading during flight.	● Recognizes airwork deviations in a timely manner based on the phase of flight, not to exceed 30 seconds (enroute phase) and effectively directs corrections to: ► Maintain aircraft within 100 feet, 10 KIAS, ±5° of assigned altitudes, speeds, and headings, respectively. ► Initiate/direct level-off from all climbs/descents.

BEHAVIOR STATEMENT	STANDARDS
5. Brief/Debrief	
● Prepared for the brief and, as required, brief the flight in preparation for the mission. ● During debrief, recall flight progression and play an active role in the mission/aircrew evaluation.	● Briefs the flight in accordance with the squadron briefing guide for the event. ● Demonstrates proficient knowledge of discuss items with minimal deficiencies. ● Demonstrates knowledge of all aspects related to conduct of flight event. ● Recalls specifics of the mission and is able to accurately assess aircrew performance.
6. Mission Planning	
● Perform mission planning to include takeoff, climb, enroute, descent, approach, and landing data. ● Prepare chart and mission material. ● Obtain applicable weather, bird activity, and NOTAMs. ● Plan alternate execution. ● Prepare flight log/DD-1801, as required. ● Adjust mission's profile based on real-world/weather concerns.	● Correctly interprets a valid Wx briefing/information for all flights. ● Completes DD-1801 with 100 percent accuracy. ● Completes Jet Log with 90 percent accuracy, as required. ● Reviews FLIP documents, NOTAMs, and other applicable flight information. ● Has all required materials (Wx brief, FLIP publications, NOTAMs) prior to brief. ● Accurately adjusts mission profile based on current and forecast weather.
7. ASCAN Responsibilities	
● Accomplish required in-flight duties.	● Performs appropriate in-flight checklists, when required, per NATOPS and FTI. ● Gives proper takeoff calls, altitude warning calls and landing rollout calls per FTI to 90 percent accuracy.
8. Ground Procedures	
● Begins when departing for the aircraft and ends when cleared for takeoff. ● Begins again when aircraft clears the runway and ends when Before Leaving Aircraft Checklist is complete.	● Correctly performs aircraft inspections, and all ground checklists, procedures, and required briefs IAW NATOPS, FTI, and SOPs. ● Monitors engine instruments for proper indications during start. ● Safely directs/monitors the taxi of the aircraft via local procedures, using applicable airfield diagram as a reference.

BEHAVIOR STATEMENT	STANDARDS
9. Radio Procedures	
● Effectively communicate via the use of UHF/VHF radios and ICS as required. ● Use standard terminology IAW AIM/FAR and FTIs.	● Understands and responds to 90 percent of incoming calls. ● Communicates clearly and concisely with appropriate agencies using standard military and FAA terminology.
10. Takeoff	
● Begins when cleared for takeoff and ends when After Takeoff Checklist complete and climb power and airspeed are established.	● Performs/directs takeoff procedures IAW NATOPS, FTI, and SOP. ► Ensures MAX power is set. ► Ensures computed MIN power at 60 KIAS is met. ► Ensures rotation is initiated at 85 KIAS. ► Ensures proper takeoff attitude is met. ● Monitors engine instruments and annunciator panel and reports abnormalities. ● Ensures gear retraction after verifying two positive rates of climb and flap retraction after verifying a minimum of 110 KIAS and prior to exceeding aircraft limitations.
11. Departure	
● Begins when climb airspeed is established and ends when published departure is complete or established in assigned working area. ● If no published departure, ends when initiating pitch change for level-off.	● Directs compliance with ATC/departure/flight plan clearances. ● Performs an operations check after making radio contact with Departure Control, safety of flight permitting.
12. In-Flight Checks	
● Accomplish in-flight checks IAW NATOPS, FTI, and SOP.	● Identifies nearest divert field. ● Perform operations check at least every 20 minutes.
13. Use of Controls/Trim	
● Properly trim the aircraft as required by changes in airspeed, power, or configuration.	● Attempts to maintain balanced flight and trims in the correct sequence: rudder, elevator, and aileron.

BEHAVIOR STATEMENT	STANDARDS
14. Basic Transitions	
● Performs/directs/ensures proper climbs, descents, and level-offs.	● Initiates level-off at the correct altitude IAW FTI, using PAT principle. ● Performs clearing turns for climbs and descents greater than 1000 feet, as appropriate.
15. Visual Scan/Lookout Doctrine	
● Maintain lookout doctrine essential for safe ground/airborne operations. ● Direct aircraft control and effective visual navigation, relying primarily on outside references. ● Keep visual scan outside the cockpit to the maximum extent practicable for safe aircraft operation, traffic, terrain hazards and hazard/weather avoidance.	● Directs aircraft maneuvers to safely avoid actual or potential conflicts. ● Alerts crew to ground/airborne hazards (i.e., traffic, weather, birds, and obstacles). ● Locates visual checkpoints to aid effective and safe navigation.
16. SUA/ONAV Route Entry/Exit Procedures	
● Perform entry/exit procedures for SUA or ONAV route IAW FTI, briefing, and local standards. ● Properly use visual cues and navigational aids to identify the route or SUA entry/exit point. ● Use descent procedures (planned or unplanned) to control timing to the entry point.	● Performs required duties during entry and exit from SUA or ONAV route. ● Contacts airspace control authority and uses appropriate comms to gain clearance to enter/exit controlled airspace. ● Acquires and flies to the entry point, using offsets as necessary to start the route on the desired outbound heading. ● For restricted area operations, contacts range authority for entry/exit clearance and uses appropriate comms IAW FTI and local standards. ● Directs adherence to published or directed entry/exit restrictions with respect to altitude (to include VFR hemispheric altitudes), heading, airspeed, position, squawk, etc. ● Arrives at the entry point ±4 minutes of briefed time.

BEHAVIOR STATEMENT	STANDARDS
17. In-Flight Planning/Area Orientation	
● Visually navigate and remain in the confines of designated MTR, MOA, or working area/SUA. ● Remain within the MTR vertical/lateral confines as prescribed in the AP/1B.	● Maintains appropriate boundaries and altitude block within a working area as required. ● Remains aware of aircraft position in designated working area. ● Directs headings and plans maneuvers to keep aircraft in the confines of the designated working area.
18. Level Speed Change	
● Perform/direct level speed change procedures.	● Executes/directs the level speed change procedures in a timely manner IAW the FTI with 100 percent accuracy. ● Commences in normal cruise configuration on any numbered heading. ● Completes the Before Landing Checklist during the maneuver.
19. Turn Pattern	
● Perform/direct turn pattern procedures.	● Executes/directs turn pattern procedures IAW the FTI with 100 percent accuracy. ● Commences in normal cruise or slow cruise on a cardinal heading. ● Maintains bank angle ±10° whether at the controls or not.
20. Power-Off Stall	
● Perform/direct power-off stall procedures.	● Performs/directs power-off stall procedures IAW the FTI with 100 percent accuracy. ● Commences in normal cruise configuration. ● Establishes aircraft in proper 125 KIAS, power-off glide attitude. ● Initiates/directs recovery at first indication of an impending stall.

BEHAVIOR STATEMENT	STANDARDS
21. Approach Turn Stall	
● Perform/direct ATS procedures.	● Performs/directs ATS procedures IAW the FTI with 100 percent accuracy. ● Commences in the downwind configuration. ● Completes the Before Landing Checklist during the maneuver. ● Initiates/directs recovery at first indication of stall at/above 6000 feet AGL. ● Verifies positive climb and reports, "aircraft climbing."
22. Spin	
● Perform/direct spin procedures.	● Performs/directs spin procedures IAW the FTI with 100 percent accuracy. ● Commences in slow cruise configuration. ● Clearly communicates correct spin indications over ICS. ● Initiates/directs/verifies proper recovery procedures after verifying stabilized spin indications or reaching 12,500 feet AGL (whichever occurs first).
23. Simulated Power Loss	
● Perform/direct simulated engine failure procedures, given simulated power loss indications above 3000 feet AGL.	● Performs/directs simulated power loss procedures IAW the FTI with 100 percent accuracy. ● Immediately recognizes the power loss and verbalizes all required boldface procedures for the given situation with 100 percent accuracy. ● Selects suitable landing site, if available. ● Effectively navigates the aircraft to intercept ELP. ● Ensures proper glide speeds +10/-5 KIAS.

BEHAVIOR STATEMENT	STANDARDS
24. Practice Precautionary Emergency Landing (PPEL)	
● Given simulated condition requiring PEL, perform/direct PPEL procedures.	● Performs/directs PPEL procedures IAW the FTI with 100 percent accuracy. ● Immediately recognizes the emergency condition and verbalizes all required boldface procedures for the given situation with 100 percent accuracy. ● Selects and effectively navigates to the nearest suitable landing site. ● Manages/monitors airspeed as appropriate for climb or acceleration to high key. ● Ensures 125 +10/-5 KIAS prior to configuration. ● Ensures clean configuration for climb, configures at appropriate time for landing, and completes the Before Landing Checklist prior to touchdown.
25. Landing Pattern	
● Perform/direct landing pattern procedures and BAW/BAR. ● If from initial, from rolling out on downwind to flare. ● If from takeoff, touch-and-go, or waveoff, commencing the crosswind turn to flare.	● BAR/BAW: ► Maximum 45º AOB. ► TO Flap: ▪ 115 +10/-0 KIAS from 180 until final. ▪ 105 +10/-0 KIAS until beginning landing flare. ► LDG Flap: ▪ 110 +10/-0 KIAS from 180 until final. ▪ 100 +10/-0 KIAS until beginning landing flare. ► No-Flap: ▪ 120 +10/-0 KIAS from 180 until final. ▪ 110 +10/-0 KIAS until beginning landing flare.
● Contacts tower for landing and downwind clearance or broadcasts intentions on CTAF.	● Tower/CTAF landing communications are initiated at the abeam position IAW FTI format without error. ● Crosswind request/CTAF report made IAW FTI without IP prompting.
● Directs/configures/trims aircraft for landing.	

BEHAVIOR STATEMENT	STANDARDS
25. Landing Pattern (cont.)	
● Completes the Landing checklist.	● If turning downwind, Landing checklist complete prior to the abeam position without error. If out of the break, Landing checklist complete prior to landing without error.
26. Landings	
● Perform/direct normal landing per the FTI. ● From crossing runway threshold until touch-and-go, commencing crosswind turn.	● Performs/directs safe landing procedures IAW NATOPS, FTI, and local procedures. ● Attempts/directs: correct glidepath until flare initiation. ● Attempts/directs touchdown with: ► Appropriate crosswind controls. ► Main gear first (nose-high attitude). ► Nose gear ±10 feet of centerline. ● Recognizes the touchdown zone as defined by FTI and local instructions. ● Performs/directs full-stop or touch-and-go procedures per FTI. ● Makes landing rollout calls until aircraft reaches 40 KIAS, as appropriate (This is not required in the FAM stage).
27. Go Around/Waveoff	
● When appropriate, discontinue approach to landing.	● Initiates/directs waveoff when required by the FTI and/or safety-of-flight to include: ► Conflicting with PEL traffic. ► Stall warning system actuates (stick shaker) or airframe buffet. ►Aircraft requires more than 45-degree AOB to avoid overshooting final. ● Ensures positive climb and configuration during waveoff.
28. Course Rules	
● Return to home field in accordance with local procedures.	● Obtains ATIS information. ● Conducts recovery briefing. ● Visually navigates via published routing with minimal discrepancies.

BEHAVIOR STATEMENT	STANDARDS
29. Precision Aerobatics/Anti-G Straining Maneuver	
● Recall in-flight PA maneuver entry parameters. ● Perform proper AGSM.	● Directs the setup configuration (proper airspeed and altitude) to begin the maneuver IAW FTI with 100 percent accuracy. ● Executes AGSM in flight without error.
30. Use of ATIS/PMSV/FSS	
● Use ATIS/PMSV to update destination conditions IAW the FTI. ● Use FSS as required to open, change, and close flight plans.	● Checks ATIS prior to contacting destination approach control. ● Updates destination and alternate weather with PMSV/AWOS/FSS enroute, when required. ● Contacts FSS to: ► Open flight plans after departure. ► Change flight plans enroute. ► Close flight plans after landing.
31. In-Flight Computations	
● Compute IAW the FTI: ► Ground speed. ► ETE (to turnpoints). ► Fuel at destination IAF.	● Computes: ► Ground speed ±12 knots. ► ETA ±1 minute. ► Fuel at destination IAF within ±30 pounds of instructor calculations.
32. Crew Resource Management (CRM)/Crew Coordination	
● Use available crew and cockpit resources to minimize workload and enhance situational awareness. ● Effectively communicate mission essential information between crewmembers. ● Build crew awareness with timely and effective descriptive comm.	● Properly identifies crew roles, responsibilities, and expectations. ● Improves mission effectiveness by minimizing crew preventable errors and optimizing crew coordination. ● Demonstrates both leadership and team member skills. ● Demonstrates proper level of assertiveness for the situation.
33. In-Flight Briefings	
● Accomplish in-flight briefings IAW the FTI.	● Provides takeoff brief, departure brief, holding brief, field brief, DRAFT report (as required), approach brief, and missed approach/climbout instructions when required using format delineated in the FTI with 90 percent accuracy.

BEHAVIOR STATEMENT	STANDARDS
34. Enroute Procedures	
● Perform procedures while flying between departure transition point and destination. ● Identify an intersection using appropriate NAVAID(s). ● Identify station/waypoint passage IAW FTI. ● Intercept a radial and track inbound or outbound from a station. ● Properly manipulate EFIS Control Panel.	● Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIP publications. ● Determines approximate wind direction ±30° and ±15 knots and maintains proper crab angle ±5°. ● Gives position reports as required. ● Leads turns when applicable IAW FTI. ● Maintain within 2 NM of course centerline between all NAVAIDs and fixes. ● Correctly identifies NAVAID station, GPS waypoint, or intersection passage.
35. Arcing	
● Direct per FTI: ► VOR/DME arcing. ► Arc-to-radial intercepts. ► Radial-to-arc intercepts.	● Maintains the arc ±0.5 DME. ● Calculates lead points IAW FTI to join: ► Arc ±0.5 DME. ► Radial ±3°.
36. Holding (GPS)	
● Direct GPS holding IAW the FTI.	● Properly sets GPS for holding. ● Computes proper entry turn. ● Directs holding airspeed three minutes or less from the holding fix. ● Establishes and maintains aircraft within holding airspace. ● Properly calculates and applies drift corrections IAW the FTI.

BEHAVIOR STATEMENT	STANDARDS
37. GPS Approach	
● Direct a GPS approach IAW the FTI.	● IAF to FAF maintains course ±1 dot or valid intercept. ● Initial approach waypoint to FAWP: maintains course ±0.25 NM or valid intercept. ● At 3 NM from FAWP, ensures FAWP is active waypoint. ● At 2 NM from FAWP, ensures GPS is in active mode. ● By the FAF: ► Completes landing checklist. ► Ensures approach goes active prior to descent from FAF. ● Final: ► Maintains ±1 dot of desired course. ► Reaches and maintains MDA +100/-0 feet. ● Determines if the aircraft is in a position to execute a safe landing upon reaching the MDA/MAP. ● Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.
38. Localizer Approach	
● Direct a localizer approach IAW the FTI.	● By the FAF or initiating descent to MDA, completes landing checklist. ● Final: ► Maintains ±1 dot of desired course localizer. ► Reaches and maintains MDA +100/-0 feet. ► Begins backup timing at the FAF when applicable. ● Determines if the aircraft is in a position to execute a safe landing upon reaching the MDA/MAP. ● Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.

BEHAVIOR STATEMENT	STANDARDS
39. ILS Approach	
● Direct the approach IAW the FTI.	● Prior to initiating descent to DA, completes landing checklist. ● Final: ► Maintains ±1 dot of localizer course. ► Maintains ±1 dot on glideslope. ► Begins backup timing for the localizer approach when applicable. ► Ensures missed approach/climbout instructions briefed prior to the DA. ● Determines if the aircraft is in a position to execute a safe landing upon reaching the DA. ● Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.
40. Circling Approach	
● Direct a circling maneuver to the landing runway IAW the FTI.	● Provides the pilot proper instructions to establish the aircraft into the circling maneuver for the landing runway. ● Selects appropriate MDA for aircraft category. ● Ensures aircraft is within obstruction clearance radius for aircraft category before commencing circling maneuver. ● Directs the pilot as needed to execute the appropriate missed approach or climbout instructions. ● Maintains airspeed +10/-0 KIAS of circling airspeed. ● Maintains altitude at circling minimums -0 feet.

BEHAVIOR STATEMENT	STANDARDS
41. Radar Approach (RA)/Ground-Controlled Approach (GCA)	
● Direct the pilot, as needed, to properly comply with the FTI parameters of a PAR or ASR approach.	● Responds quickly and correctly to controller instructions. ● Ensures lost communication and missed approach/climbout instructions are received prior to starting descent to DA or MDA. ● By glideslope intercept or descent to the MDA, completes landing checklist. ● Determines if the aircraft is in a position to execute a safe landing upon reaching the DA or MDA/MAP. ● Directs the pilot as needed to execute the appropriate missed approach or climbout instructions. ● Maintains airspeed +5/-0 KIAS on final. ● Maintains heading ±3º.
42. Missed Approach	
● Direct a missed approach per the FTI.	● Directs appropriate missed approach procedure when field not in sight and, ► Nonprecision: ▪ Inside FAF and full-scale CDI deflection. ▪ At specified MAP DME. ▪ At expiration of timing in the absence of DME. ► Precision, first of: ▪ DA. ▪ Controller-directed. ► Or, not in position for safe landing.
43. Instrument Procedures	
● Perform instrument procedures.	● Makes calls using proper format and terminology IAW FTI with 80 percent accuracy. ● Gives a wind-corrected outbound heading for a course, when able. ● Updates navigation aids appropriately.
N	NATOPS

Chapter X

Master Materials List

1. Individually Issued Materials

NOMENCLATURE	IDENTIFICATION	QTY PER STUDENT
a. Master Curriculum Guide	CNATRAINST 1542.194	1
b. Flight Training Instructions	CNATRA P-Pubs	various
c. T-6A NATOPS Flight Manual	NAVAIR A1-T6A AAA-NFM-100	1
d. T-6A NATOPS Pocket Checklist	NAVAIR 01-T6A AAA-NPCL-100	1
e. Flight Crew Checklist		1
f. Electronic Knee Board		1

2. Aircraft and Major Training Devices

a. T-6A Texan II aircraft.

b. T-6A 2F207 Unit Training Device quantity controlled by Naval Air Warfare Center Training Systems Division (NAWCTSD), Training Material Management Division, Inventory Control Branch (Code 5204).

c. T-6A 2F208 Operational Flight Trainer quantity controlled by Naval Air Warfare Center Training Systems Division (NAWCTSD), Training Material Management Division, Inventory Control Branch (Code 5204).

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