



DEPARTMENT OF THE NAVY

CHIEF OF NAVAL AIR TRAINING
CNATRA
250 LEXINGTON BLVD SUITE 102
CORPUS CHRISTI TX 78419-5041

CNATRAINST 1542.131B
N3111
24 JAN 2001

CNATRA INSTRUCTION 1542.131B

Subj: INTERMEDIATE NAVAL FLIGHT OFFICER (NFO)/AIR FORCE
NAVIGATOR (AF NAV) TRAINING CURRICULUM

1. Purpose. To issue the curriculum for training student military flight officers in the Intermediate phase of Naval Flight Officer (NFO)/Air Force Navigator (AF NAV) training.
2. Cancellation. CNATRAINST 1542.131A.
3. Background. This revision changes the numbering of ANAV flights following a revision of the Primary NFO curriculum.
4. Action. This instruction is effective for implementation upon receipt. No changes will be made without written authorization of the Chief of Naval Air Training (CNATRA).
5. Forms. The CNATRA forms required by this directive may be procured from CNATRA (N1221). CNATRA-GEN forms may be obtained through normal supply channels or by submitting a DD Form 1348 to Commanding Officer, Naval Air Station (NAS), Pensacola, Supply Department (Code 19560), Pensacola, FL 32508-5002, as appropriate.


J. GARCIA
Chief of Staff

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List of Effective Pages

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COURSE DATA

1. Course Title. Intermediate Naval Flight Officer (NFO) and Air Force Navigator (AF NAV) Training.
2. Course Identification Number. Intermediate Q-2D-0027.
3. Location/Course Data Processing (CDP) Code. Naval Air Station Pensacola, Pensacola, FL 32508; Training Squadron (TRARON) FOUR (1223) and TRARON TEN (9090).
4. Course Status. Revision, implement upon receipt.
5. Course Mission. Intermediate NFO/AF NAV training is designed to provide student flight officers/navigationers with the skills and knowledge required to safely aviate, navigate, communicate, manage aircraft systems, and describe two-plane formation maneuvers in aircraft in both visual contact and instrument conditions. Successful completion of the Intermediate phase of training qualifies graduates for entrance into Advanced Syllabus Strike, Strike Fighter, or Airborne Tactical Data System (ATDS) Training.
6. Prerequisite Training. Successful completion of Primary NFO/AF NAV Training, Q-2D-0012.
7. Personnel Eligible. Officers assigned by Chief of Naval Personnel, Commandant of the Marine Corps, and Commander of United States Air Force Military Personnel.
8. Physical Requirements. As specified in the Manual of the Medical Department.
9. Security Clearance Required. None.
10. NOBC/NEC Earned. None.
11. Obligated Service. As specified in the Military Personnel Manual (MILPERSMAN).
12. Follow-On Training. Airborne Tactical Data Systems Training, D-2D-0341/51 or Advanced NFO/AF NAV Core Training, Q-2D-0057.
13. Course Length (Time to Train (Tt)). 69.19 training days; 13.85 training weeks; 98 calendar days.
14. Class Capacity. Variable.
15. Instructor Requirements. As determined by Chief of Naval Operations (CNO) approved planning factors.

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16. Course Curriculum Manager. Commander, Training Air Wing SIX.
17. Quota Management Authority. Chief of Naval Air Training.
18. Quota Control. Chief of Naval Operations.
19. Primary Instructional Methods. Lecture, self-paced and group-paced; aircraft mission simulators; flight tutorial; instructional television; learning centers.
20. Preceding curriculum data. Replaces CNATRINST 1542.131A.
21. Student Performance Measurement. As published in CNATRINST 1500.4F and the curriculum guidelines included in this instruction.
22. Application of Standards. The standards outlined in the Enabling Objectives are used to evaluate the student's performance of individual items. The standards serve as a guide and describe the envelope or parameters in which a student must characteristically perform to satisfactorily meet the training objectives. Exceptions beyond the "plus" or "minus", or other standards are expected and acceptable as long as timely corrections are made and safety of flight is not compromised. Procedural knowledge and application must be in accordance with applicable directives or manuals. Final judgement regarding the satisfactory performance of any item rests with the instructor who is capable of assessing the factors affecting the conditions under which the performance is measured.

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CURRICULUM GUIDELINES1. Sequencing

a. The Intermediate phase consists of six stages: Instrument Navigation (INAV), T-34C and T-1A/T-39 Airways Navigation (ANAV), T-34C and T-1A/T-39 Visual Navigation (VNAV), and T-34C Formation (FORM). The training is sequenced in three modules. Module 0 is the Administrative module. Module 1 contains T-34C training, and Module 2 contains T-1A/T-39 training.

b. Module 1 and 2 events are sequenced in the order that the instruction should be given. As a minimum the NFO/NAV must receive all flight support, simulators and flights listed in the sequence of instruction prior to their respective checkflight or event before they can be given the checkflight/event. Additionally all appropriate supportive training shall be given before the respective flight training is conducted. For example FORM Preparation (FMP-1) must be completed prior to FORM-1. Any student scheduled to fly VNAV missions shall have an ANAV route prepared as a backup.

(1) Module 0. Given after all other events are completed.

(2) Module 1. VNAV-1 cannot be flown prior to completion of ANAV-12. All other ANAV and VNAV flights must be flown in sequence in stage but a student can fly either stage event on any given day. AVX-1X cannot be flown prior to completion of ANAV-17 and VNAV-3. VNAV-4 event occurs after completion of FORM-2.

(3) Module 2. The ANAV-18 shall be the first T-1A/T-39 flight. All other ANAV and VNAV flights must be flown in sequence in stage but a student can fly either stage event on any given day (eg.- Student scheduled for ANAV-18 on Tuesday, a VNAV-5 on Wednesday, an ANAV-19 or VNAV-6 on Thursday, and so forth). The VNAV-5 shall be the first T-1A/T-39 Visual Navigation Flight. AN-20 and AN-21 may be flown in any order after completion of AN-19. AVX-2X must be the last event in the intermediate phase.

2. Briefing Time. Adequate briefing time shall be provided. Mission briefing is the responsibility of the NFO/AF NAV instructor. Students may be tasked to brief portions of flight/simulator events, and shall be tasked to brief all check flight/simulator events, with instructors ensuring that all flight/simulator requirements are thoroughly briefed. Instructors will thoroughly debrief each flight and critique students on their performance. All members of the flight crew, (i.e. pilots, instructors, observers, students, passengers,

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etcetera) will be briefed by the flight leader in the briefing area. Although students may be briefed early on fundamental techniques, all members of the flight will be in attendance for the NATOPS brief and final portion in order to firmly establish in-flight procedures. Students are responsible for briefing their AVX-1X and 2X checkflights, ANAV-16, 17, 19, 20, and 21, and VNAV-4, 6, and 7. The minimum items that must be briefed with all members of the flight present are as follows:

- a. Weather.
- b. Sequence of events.
- c. Communications plan.
- d. Exceptions, omissions, additions, and substitutions to maneuvers and procedures described in the FTI and the briefing guide for the specific curriculum flight.
- e. No radio (NORDO) procedures.
- f. Applicable emergency procedures.

3. Schedule Limitations

a. The student's working day from first scheduled event to completion of the last event of the day (including associated paperwork and debrief) shall not exceed 12 hours.

b. A minimum of 12 hours shall elapse between the conclusion of the student's last scheduled event on one day (including associated debrief) and his/her first scheduled instructional event the following day.

c. The student's maximum work week is six days followed by two days off. The Training Air Wing (TRAWING) Commander may waive this requirement on an individual basis within the guidance set forth in OPNAVINST 3710.7R.

d. A maximum of two events (flight and/or simulator) may be scheduled in one day, except as waived by COMTRAWING SIX in accordance with CNATRA 1500.4F.

4. Flight Standardization. All flights outlined within this curriculum shall be conducted in accordance with the appropriate T-34C/T-39 NATOPS, T-1A Dash 1, CNATRA Flight Training Instructions (FTIs), and TRAWING SIX Standard Operation Procedures (SOPs).

5. Solo Restrictions. Solo flight is not authorized.

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6. Administration

a. Aviation Training Forms (ATFs)

(1) A CNATRA ATF shall be completed in accordance with CNATRAINST 1500.4F and this instruction for each curriculum flight and simulator. All items graded unsatisfactory, below average or above average shall be commented upon in the remarks section.

(2) ATFs shall be completed the same day the flight or simulator is conducted.

(3) Instructors omitting items called for in the curriculum shall mark the flight or simulator event incomplete. Administrative procedures for completing and grading incomplete events are contained in CNATRAINST 1500.4F.

(4) The following flights are considered progress checks and shall be so annotated on the student's ATF: AVX-1X and AVX-2X.

b. Warm-up Criteria

(1) A student shall be given an optional warm-up event if the student has not flown in seven calendar days and the time elapsed between curriculum flights is in the same stage. This optional warm-up is given to regain flight proficiency due to the layoff if below average or unsatisfactory performance in radar operations, visual navigation, or airmanship results from the delay.

(2) If a student with a layoff of greater than six days completes the event satisfactorily, the flight will count as a regular curriculum event, and the student will progress to the next event.

(3) Below average or unsatisfactory performance in preflight or procedural categories cannot be attributed to a flight layoff period.

(4) Warm-ups do not apply when progressing to a different aircraft or to a new stage.

(5) The instructor is required to state on the ATF the reasons for awarding a warm-up.

(6) Warmup guidance for students who have not flown for over 14 days is provided in CNATRAINST 1500.4F.

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c. Marginal Performance. Marginally performing students shall be determined and handled in accordance with CNATRAINST 1500.4F. Students will be reviewed for marginal performance at the completion of the following events: (1) AVX-1X; (2) AVX-2X.

d. Aviation Training Jacket (ATJ) Reviews. ATJs will be reviewed weekly and prior to briefing each check flight, noting any trends or problem areas. Additional requirements for reviewing marginal/unsatisfactory performance are listed in CNATRAINST 1500.4F (Chapter III).

7. Waiving Events. The flights and simulators listed are the minimum number to be completed by all students. No provisions of this curriculum shall be waived without written authorization from CNATRA.

8. Incomplete Flights. Incomplete flights may be completed during the following event if time and fuel are available. On a flight completing a previously incomplete event, only omitted items should be performed and graded. Items such as headwork, situational awareness and procedures, that are evaluated throughout the entirety of a flight should be graded only on the flight comprising the majority of the graded events. Additional guidance is provided in CNATRAINST 1500.4F, Chapter VII, including the awarding of a grade of unsatisfactory for unsafe tendencies, flight violations, not achieving curriculum standards etcetera.

9. Weather/Safety Pilots. No requirement for weather or safety pilots exists in this curriculum.

10. Emergency Procedures. Emergency procedures and handling of aircraft malfunctions must be learned in such a manner as to build the student's confidence in the aircraft. An emergency procedures examination shall be successfully completed in Primary (T-34C) prior to beginning Intermediate flight training. Additionally, students are required to successfully complete an emergency procedures examination for the T-1A/T-39 prior to ANAV-18.

11. Weather Minimums. OPNAVINST 3710.7R weather minimums will be followed, as well as applicable SOPs and FTIs.

12. Flight Simulator Interchangeability. Flight and simulator events may not be interchanged without approval from CNATRA.

13. Definitions. The following terms found in the flight curriculum description will be applied to flight training as defined in this instruction:

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a. Discuss

Instructor: Quiz the student on the applicable procedures, systems, or maneuvers.

Student: Responsible for knowledge of the procedures prior to the event brief.

Item: Graded with an "X" by the instructor in the grade columns on the Aviation Training Form (ATF), labeled "DI" in the "ID" column. If this is not available on the ATF, they should be graded in the most appropriate area (e.g., HW, PROC, or EP).

b. Brief

Instructor: Brief the student on the applicable procedures.

Student: Responsible for knowledge of the procedures prior to the event brief.

Item: Not graded if **average**, but marked with "BRF" by the instructor in the grade columns on the ATF, labeled "B" in the "ID" column (if applicable). Graded if **other than average** with an "X" by the instructor on the ATF in the most appropriate area (e.g., HW, PROC or EP, if applicable).

c. Demonstrate

Instructor: Perform the maneuver with precision and accompanying description.

Student: Responsible for knowledge of the procedures prior to the event brief and observe the maneuver.

Item: Not graded, but marked with "DEMO" by the instructor in the grade columns on the ATF, labeled "D" in the "ID" column.

d. Introduce

Instructor: Coaches the student through the maneuver as necessary, and/or may demonstrate the maneuver.

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- Student: Responsible for knowledge of the procedures prior to the event brief and perform the maneuver with coaching as necessary.
- Item: Graded with an "X" by the instructor in the grade columns on the TF, labeled "I" in the "ID" column.
- e. Practice
- Instructor: Observe the student with minimal coaching; may also demonstrate the maneuver if necessary.
- Student: Must perform maneuver with minimal coaching.
- Item: Graded with an "X" by the instructor in the grade columns on the ATF, labeled "P" in the "ID" column.
- f. Review
- Instructor: Observe and grade the maneuver without coaching; airborne critique is encouraged.
- Student: Expected to perform the maneuver without coaching and devoid of procedural errors. The level of performance must warrant progression to the next stage or phase of training.
- Item: Graded with an "X" by the instructor in the grade columns on the ATF, labeled "R" in the "ID" column.
- g. Non Graded
- Instructor: Observe maneuver; item will be graded only if performed above average, below average or unsatisfactory.
- Student: Expected to perform the maneuver without coaching and devoid of procedural errors. The level of performance must warrant progression to the next stage or phase of training.

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- Item: Not graded, but marked with **"NG"** by the Instructor in the grade columns on the ATF, labeled "NG" in the "ID" column, if the student's performance is **average**. Graded with an **"X"** in the appropriate grade column if the student's performance for that maneuver was **other than average**.
- h. Did Not Do
- Instructor: A required item on the ATF, which was not done or completed for various reasons (i.e., weather, aircraft malfunctions, etc).
- Student: Maintain and present a copy of the ATF to the instructor of the next like event so the next instructor is clear about all previously graded items (PGI)/DND item(s).
- Item: Not graded, but marked with "DND" by the instructor in the grade columns on the ATF. If the event is incomplete, an associated remark is required. One incomplete item constitutes an incomplete event. Every item previously marked "DND" shall be either graded appropriately, or marked "DND" if incomplete again.
- i. Not Applicable Not graded, but marked with "NA" by the instructor in the grade columns on the ATF. This is used **ONLY** for items in the following two different cases:
 (1) **LABELED** on the ATF "Optional" or its equivalent. (2) On authorized compressed/waived **set** of flights/events compressed into one flight/event.(e.g., IUT Curriculum, Standard Primary Waivers, etcetera). In both of cases, the event shall be considered **COMPLETE**. If not within these two categories, it is considered incomplete; refer to and use DND instead.

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j. Previously Graded Item

Instructor: A maneuver previously graded on an incomplete event. The item may be flown on the next attempt at the event if fuel/time permits or if required in order to accomplish the previously "DND" item(s) (e.g., Ground Procedures, Taxi, Takeoff, etc.). If the student's performance is anything other than average on any previously graded item, it shall be graded again.

Student: If required to perform the maneuver again, expected to do so at the level shown in the "ID" column.

Item: Not graded, but marked with "**PGI**" by the instructor on the ATF in the appropriate grade column if the student's performance for that item was **average** or if it was not performed again. Graded with an "**X**" by the instructor on the ATF in the appropriate grade column if the student's performance for that item was **other than average**.

k. Not Observed

Normally used for student solo events. Instructor (ODO/FDO/RDO) shall brief the student thoroughly to ensure preparedness. The student is expected to perform the maneuver as briefed to the skill level stipulated in the review description above.

Not graded, but marked with "**NOB**" by the ODO/FDO/RDO on the ATF. Graded with an "**X**" in the appropriate grade column as observed by a qualified instructor (i.e., ODO/FDO, RDO, SODO, Section/Division Leader, etcetera), if the student's performance for that maneuver was **other than average**.

l. "S"-Coded

Student instructional flights designated by the "S" (e.g., BI-1S) are flown in the flight simulator.

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14. Performance Measurement

a. Flight Support. Criterion reference testing is used for basic, mid-phase and end-of-phase examinations which consist of 25-100 questions. The final flight support grade is comprised of a weighted average of the scores of all examinations in Intermediate NFO/AF NAV training.

b. Flight and Simulators. Standards of performance are delineated in the Enabling Objectives. All events are subjectively graded using nominative reference measurement procedures. Flight and simulator grade averages are maintained separately. Grading criteria for student flight and simulator events is listed in CNATRAINST 1500.4F (Chapter VII).

c. Unsatisfactory Performance. A student who receives a grade of unsatisfactory on a flight or simulator event or an examination shall receive additional instruction as deemed appropriate per CNATRAINST 1500.4F.

d. Final Phase Grade. Final flight support, flight, and simulator grades are combined algebraically and applied to the Navy Standard Scoring System in accordance with CNATRAINST 1500.4F.

15. Flight Support. Flight support periods will be scheduled in accordance with the sequence in the Curriculum Outline. Flight support lectures will be given no later than the day prior to the simulator or flight event the lecture supports.

16. Drop on Request (DOR) Policy. All Naval Air Training Command (NATRACOM) courses are voluntary. Accordingly, students have the option to individually request termination of training. Any time the student makes a statement such as "I quit" or "DOR" he or she shall be immediately removed from the training environment and referred to the division or training officer for administrative action.

17. Training Time Out Policy. Any time a student or instructor has apprehension concerning his or her personal safety or that of another, he or she shall signal for a "Training Time Out" to clarify the situation and receive or provide additional instruction as appropriate. "Training Time Out" signals other than verbal, shall be appropriate to the training environment and shall be clearly briefed.

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SECTION ITRAINING SUMMARY1. Training Hour SummaryFLIGHT TRAINING

<u>STAGE</u>	<u>SYMBOL</u>	<u>TOTAL FLIGHTS</u>	<u>HRS/FLT</u>	<u>TOTAL HOURS</u>
T-34C Airways Navigation	ANAV	11	2.0	22.0
T-34C Visual Navigation	VNAV	4	2.0	8.0
T-34C Airways/Visual NAV Check	AVX	1	2.0	2.0
T-34C Formation	FORM	2	2.0	4.0
<u>SUBTOTAL</u>		<u>18</u>		<u>36.0</u>
T-1A/T-39 Airways Navigation	ANAV	4	1.5*	7.6
T-1A/T-39 Visual Navigation (Low Level)	VNAV	3	1.1	3.3
T-1A/T-39 Airways/ Visual NAV Check	AVX	1	2.4	2.4
<u>SUBTOTAL</u>		<u>8</u>		<u>13.3**</u>
<u>TOTALS</u>		<u>26</u>		<u>49.3</u>

* ANAV 20 & 21 are 2.3 hours vice 1.5.

** Students usually receive an additional 3.3 hours of flight time as an observer during the three VNAV flights, while another student is receiving graded instruction. In these events, students complete graded events with the total flight time split between students, each receiving half as observer time. Thus typical student flight time in T-1A/T-39 VNAV flights is 6.6 hours for total of 16.6 hours flight time in the T-1A/T-39 stage.

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SIMULATOR TRAINING

STAGE	SYMBOL	EVENTS	HOURS/ EVENT	TOTAL HOURS
2B37 Operational Flight Trainer	OFT	5	1.5	7.5
TOTALS		5		7.5

FLIGHT SUPPORT/ACADEMICS/ADMINISTRATIVE

SUBJECT	SYMBOL	HOURS
Instrument Navigation Preparation	INP	3.0
Aircrew Coordination	ACT	4.5
Visual Navigation	VN	20.0
Intermediate Airways NAV Preparation	IANP	1.0
Form Preparation	FMP	2.0
T-1A/T-39 NATOPS	NATOPS	22.0*
T-1A/T-39 Flight Preparation	FP	9.0
Graduation, Winging, Check-out	ADM	2.0
TOTALS		63.5

* T-39 NATOPS requires an additional 3.5 hours.

2. Training Allocation By Module

MOD	FLIGHT HOURS/EVENTS	SIMULATOR HOURS/EVENTS	FLIGHT SUPP ACAD/ADMIN HOURS	Tc DAYS	Tt DAYS
0			2.0	.33	.42
1	36.0/18	7.5/5	21.5	35.38	45.29
2	13.3/8		40.0	18.35	23.48
TOTALS	49.3/26	7.5/5	63.5	54.06	69.19

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3. Training Time Analysis. The following table shows the additional training contact time involved for each programmed curriculum hour, flight, or simulator event. The figures represent the minimum average time a student is involved in the direct learning process, either in preparation for, or utilizing training equipment. Training time is expressed as curriculum time, not calendar days or calendar weeks.

ADDITIONAL TIME PER PROGRAM CURRICULUM HOUR (ch) or EVENT (e)

Training Area	Preparation and Study	Brief and Debrief	Preflight & Taxi	Total (k)
Flight (T-34C)	4.75	2.0	0.6	7.35*
Flight (T-1A/T-39)	4.50	2.0	0.6	7.1*
Simulator (2B37)	2.00	1.0		3.0*

* Training time per event

Administrative time, transit time from activity to activity, meals, scheduling delays and military watchstanding duties are not considered. The student training week is based on six hours of training per day, five days a week (30 hours). Computation of student training is based on the following formula:

ch = curriculum hours

e = events

k = additional training time per curriculum hour or event

Tc = Total Curriculum Time

$$\frac{ch + (ch \text{ or } e \times k)}{6 \text{ (days) or } 30 \text{ (weeks)}} = Tc \text{ (days or weeks)}$$

The Tc calculated is the total contact time required to complete this phase of training.

a. Time to Train (Tt). The following factors are considered in computing Time to Train: weather, unsatisfactory events, associated delays, medical groundings, and flight or simulator events canceled due to lack of instructor or equipment availability. The combination of these factors constitutes additional time required to train and is expressed as a percentage (Δt) of the Curriculum Time (Tc). The Δt for intermediate flight training is 28 percent. The formula for computing Time to Train (Tt) is as follows: $Tc + (Tc \times \Delta t) = Tt$.

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b. Intermediate Phase Training Time

Training Area		Hours	Events	Training Days	Training Weeks
Flight: T-34C		36.0	18	28.05	5.61
T-1A/T-39		13.3	8	11.68	2.34
SUBTOTAL	a	49.3	26	39.73	7.95
Simulator:		7.5	5	3.75	.75
SUBTOTAL	b	7.5	5	3.75	.75
Flight Support (Academics)		61.5	35	10.25	2.05
SUBTOTAL	c	61.5	35	10.25	2.05
TOTALS	a	49.3	26	39.73	7.95
	b	7.5	5	3.75	.75
	c	61.5	35	10.25	2.05
TOTAL		118.3	66	53.73	10.75
Administrative		2.0	1	.33	.07
Curriculum Time (Tc)		120.3	67	54.06	10.82

Time to Train (Tt)

Curriculum

Curriculum Time (Tc)

DAYSWEEKSX Δt (28%)

54.06

10.82

Time to Train (Tt)

15.13

3.03

69.19

13.85

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4. Module Summary

<u>MODULE</u>	<u>FLIGHT</u>	<u>ACAD/ADMIN AND FLIGHT SUPPORT</u>	<u>SIMULATOR</u>
0		ADM	
1	ANAV 7-17 VNAV 1-4 FORM 1-2 AVX-1X	INP, ACT 2-7, VN 1-5, IANP FMP	OFT 5S-9S
2	ANAV 18-21 VNAV 5-7 AVX-2X	VN 6-9, NATOPS 1-13, FP 1-4	

5. Outline Of Training

MODULE 0

<u>PERIOD REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 0-1 Admin	ADM	GRADUATION AND CHECK-OUT	2.0
		TOTAL MOD 0 HOURS - ADMIN.	2.0

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MODULE 1

OBJECTIVE: To further refine the SNFO's aviation, navigation, instrument and communication skills, and to introduce the SNFO to visual low-levels, formation and their associated crew coordination procedures.

PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-1 Lecture	INP	GROUND PROCEDURES/SCAN DEPARTURE/ARRIVAL/EN ROUTE PROCEDURES	3.0
MOD 1-2 2B37	OFT-5S	OPERATIONAL FLIGHT TRAINER 5	1.5

Practice

- a. Crew coordination communications
- b. Scan
- c. Departure
- d. Altitude selection/compliance
- e. En route course control
- f. Turn point procedures
- g. Time estimates
- h. Fuel management/analysis
- i. Point-to-point navigation
- j. Metro/ATIS information
- k. Holding
- l. Approach
- m. NFO responsibilities
- n. Jet Log
- o. DD-175
- p. Equipment operation
- q. Communication procedures

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PERIOD

<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 1-3 2B37	OFT-6S	OPERATIONAL FLIGHT TRAINER 6	1.5

Discuss

- a. Any emergency procedure
- b. Any limitations
- c. Lost aircraft procedures
- d. Unusual attitudes/vertigo

Introduce

Unusual attitudes, full panel

Practice

- a. Crew coordination communications
- b. Scan
- c. Departure
- d. Altitude selection/compliance
- e. En route course control
- f. Turn point procedures
- g. Time estimates
- h. Fuel management/analysis
- i. Point-to-point navigation
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- l. NFO responsibilities
- m. Jet log
- n. DD-175
- o. Equipment operations
- p. Communication procedures
- q. Ground and in-flight emergencies

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<u>PERIOD</u> <u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 1-4 2B37	OFT-7S	OPERATIONAL FLIGHT TRAINER 7	1.5

Discuss

TACAN approach procedures

Review

- a. Crew coordination communications
- b. Scan
- c. Departure
- d. Altitude selection/compliance
- e. En route course control
- f. Turn point procedures
- g. Time estimates
- h. Fuel management/analysis
- i. Point-to-point navigation
- j. Metro/ATIS information
- k. Holding
- l. Approach
- m. NFO responsibilities
- n. Jet log
- o. DD-175
- p. Equipment operation
- q. Communication procedures

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<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
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MOD 1-5	OFT-8S	OPERATIONAL FLIGHT TRAINER 8	1.5
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Discuss

GCA approach procedures

Introduce

Localizer approach

Review

- a. Crew coordination communications
- b. Scan
- c. Departure
- d. Altitude selection/compliance
- e. En route course control
- f. Turn point procedures
- g. Time estimates
- h. Fuel management/analysis
- i. Point-to-point navigation
- j. Metro/ATIS information
- k. Approach
- l. NFO responsibilities
- m. Jet log
- n. DD-175
- o. Equipment operation
- p. Communication procedures

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-6 2B37	OFT-9S	OPERATIONAL FLIGHT TRAINER 9	1.5

Discuss

- a. VOR approach procedures
- b. Lost communications prodecures

Introduce

VOR holding

Review

- a. Crew coordination communications
- b. Scan
- c. Departure
- d. Altitude selection/compliance
- e. En route course control
- f. Turn point procedures
- g. Time estimates
- h. Fuel management analysis
- i. Point-to-point navigation
- j. Metro/ATIS information
- k. Approach
- l. NFO responsibilities
- m. Jet log
- n. DD-175
- o. Equipment operation
- p. Communication procedures

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-7 Lecture	ACT-2	AIRCREW COORDINATION INTRODUCTION AND COCKPIT MANAGEMENT	1.0
MOD 1-8 Lecture	ACT-3	AIRCREW COORDINATION SUCCESS FACTORS	1.0
MOD 1-9 Lecture	ACT-4	AIRCREW COORDINATION JUDGEMENT	1.0
MOD 1-10 Lecture	ACT-5	AIRCREW COORDINATION DECISION MAKING	0.5
MOD 1-11 Lecture	ACT-6	AIRCREW COORDINATION COORDINATION CYCLE	0.5
MOD 1-12 Lecture	ACT-7	AIRCREW COORDINATION SITUATIONAL AWARENESS	0.5
MOD 1-13 Lecture	VN-1	TACTICAL PILOTAGE CHARTS/LEGENDS	2.0
MOD 1-14 Lecture	VN-2	LOW LEVEL CHART CONSTRUCTION	2.0
MOD 1-15 Lecture	VN-3	FUEL PLANNING/JET LOGS/DD-175	2.0
MOD 1-16 Lecture	VN-4	VISUAL FIXING	2.0
MOD 1-17 Lecture	VN-5	TIME AND COURSE CORRECTIONS/ TURN POINT PROCEDURES/ COMMUNICATIONS	3.0
MOD 1-18 Lecture	IANP	INTERMEDIATE ANAV PREPARATION/ VISUAL GLIDESLOPE INDICATORS AND INTERPRETATION	1.0

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-19 T-34C (R/C)	ANAV-7	T-34C AIRWAYS NAVIGATION FLIGHT 7	2.0

Discuss

- a. Uncontrollable high power
- b. Inflight damage
- c. Visual glideslope indicators and interpretation

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. TACAN approach
- r. Missed approach procedures

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-20 T-34C (R/C)	ANAV-8	T-34C AIRWAYS NAVIGATION FLIGHT 8	2.0

Discuss

- a. Engine driven/electrical fuel pump
- b. Split flaps
- c. O₂ usage

Introduce

- a. Visual glideslope interpretation (if available)
- b. VOR holding
- c. Localizer approach

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. VOR approach
- r. GCA
- s. Missed approach procedures

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-21 T-34C (R/C) Night	ANAV-9	T-34C AIRWAYS NAVIGATION FLIGHT 9	2.0

Discuss

- a. Fuel leaks/siphoning
- b. Fuel quantity imbalance
- c. OPNAVINST 3710 takeoff minimums

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. GCA
- r. No gyro GCA
- s. Visual glideslope interpretation
(if available)

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-22 T-34C (R/C)	ANAV-10	T-34C AIRWAYS NAVIGATION FLIGHT 10	2.0

Discuss

- a. Any emergency procedure
- b. Any limitation
- c. OPNAVINST 3710 alternate field requirements
- d. OPNAVINST 3710 fuel requirements

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Holding
- r. Radar vectors TACAN final
- s. TACAN approach
- t. Missed approach procedures

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-23 T-34C (R/C)	ANAV-11	T-34C AIRWAYS NAVIGATION FLIGHT 11	2.0

Discuss

- a. Servicing (out & in/cross country)
- b. Servicing aircraft
- c. Operations away from home base
- d. Circling approach

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. VOR approach
- r. GCA
- s. Missed approach procedures
- t. Visual glideslope interpretation
(if available)

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<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 1-24 T-34C (R/C)	ANAV-12	T-34C AIRWAYS NAVIGATION FLIGHT 12	2.0

Practice

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Approach
- r. Missed approach procedures
- s. Visual glideslope interpretation
(if available)

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<u>PERIOD</u>	<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
	MOD 1-25 T-34C (R/C)	ANAV-13	T-34C AIRWAYS NAVIGATION FLIGHT 13	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Holding
- r. Approach
- s. Missed approach procedures
- t. Visual glideslope interpretation
(if available)

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-26 T-34C (R/C)	ANAV-14	T-34C AIRWAYS NAVIGATION FLIGHT 14	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Approach
- r. Missed approach procedures
- s. Visual glideslope interpretation
(if available)

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-27 T-34C (R/C)	ANAV-15	T-34C AIRWAYS NAVIGATION FLIGHT 15	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Holding
- r. Approach
- s. Missed approach procedures
- t. Visual glideslope interpretation
(if available)

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PERIOD

REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-28 T-34C (R/C)	ANAV-16	T-34C AIRWAYS NAVIGATION FLIGHT 16	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew Coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communications procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Approach
- r. Missed approach procedures
- s. Visual glideslope interpretation
(if available)

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-29 T-34C Front Cockpit(F/C)	VNAV-1	T-34 VISUAL NAVIGATION FLIGHT 1	2.0

Discuss

- a. Chart usage/symbology
- b. VNAV time updates

Introduce

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. ID turn points
- d. VNAV turn point procedures
- e. Jet log
- f. ID intermediate checkpoints
- g. VNAV hazard calls
- h. Standard time corrections
- i. Standard course corrections
- j. Altitude selection/compliance
- k. Fuel management/analysis
- l. Metro/ATIS information
- m. Crew coordination communications
- n. Wind analysis

Practice

- a. Departure
- b. Radio instrument approach
- c. VNAV chart

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-30 T-34C (F/C)	VNAV-2	T-34C VISUAL NAVIGATION FLIGHT 2	2.0

Practice

- a. NFO responsibilities
- b. ID turn points
- c. VNAV turn point procedures
- d. Jet log
- e. ID intermediate checkpoints
- f. VNAV hazard calls
- g. Standard time corrections
- h. Standard course corrections
- i. Altitude selection/compliance
- j. Fuel management analysis
- k. Metro/ATIS information
- l. Crew coordination communications
- m. Wind analysis
- n. Radio instrument approach

Review

- a. NATOPS limits/emergency procedures
- b. Radar approach
- c. Communication procedures

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-31 T-34C (F/C)	VNAV-3	T-34C VISUAL NAVIGATION FLIGHT 3	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Ground procedures
- d. ID turn points
- e. VNAV turn point procedures
- f. ID intermediate checkpoints
- g. VNAV hazard calls
- h. Standard time corrections
- i. Standard course corrections
- j. Altitude selection/compliance
- k. Fuel management/analysis
- l. Metro/ATIS information
- m. Crew coordination communication
- n. Wind analysis
- o. Communications procedures
- p. Radio instrument approach (other than homefield)
- q. Radio instrument approach

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 1-32 T-34C (R/C)	ANAV-17	T-34C AIRWAYS NAVIGATION FLIGHT 17	2.0

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Crew coordination communications
- d. Jet Log
- e. DD-175
- f. Equipment operation
- g. Scan
- h. Communication procedures
- i. Departure
- j. Altitude selection
- k. En route course control
- l. Turn point procedures
- m. Time estimates
- n. Fuel management/analysis
- o. Point-to-point navigation
- p. Metro/ATIS evaluation
- q. Approach
- r. Missed approach procedures
- s. Visual glideslope interpretation
(if available)

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
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MOD 1-33 T-34C (F/C)	AVX-1X	T-34C AIRWAYS AND VISUAL NAVIGATION CHECKFLIGHT	2.0
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Discuss

Any emergency procedure

Review

- a. NATOPS limits/emergency procedures
- b. Brief/procedures review
- c. Jet Log
- d. DD-175/WX analysis
- e. Low level chart
- f. Systems knowledge
- g. Equipment operation
- h. Departure
- i. Scan
- j. Checklists
- k. Radio communications
- l. ID turn points
- m. ID intermediate checkpoints
- n. VNAV turn point procedures
- o. Wind analysis
- p. Base course/speed adjustments
- q. Time corrections
- r. Course corrections
- s. Inst. turn point procedures
- t. En route course control/PT-PT
- u. Time estimates
- v. Fuel management/analysis
- w. Approach
- x. Preflight/postflight
- y. Crew coordination
- z. Visual glideslope interpretation
(if available)

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
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MOD 1-34 Lecture	FMP	FORMATION PREPARATION AND PROCEDURES	2.0
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MOD 1-35 T-34C (R/C)	FORM-1	TWO PLANE FORMATION FLIGHT PROCEDURES AND COMMUNICATIONS	2.0
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Discuss

- a. Lead/wing responsibilities
- b. NORDO, HEFOE, visual signals
- c. Formation procedures and positions
- d. Airborne damaged plane

Introduce

- a. Flight brief
- b. Formation ground procedures
- c. Takeoff and departure
- d. Parade sequence
- e. Lead change
- f. Wingman communication
- g. Crew coordination communications
- h. VFR arrival
- i. Cruise formation maneuvers

Review

- a. NATOPS limitations/emergency procedures
- b. NFO responsibilities
- c. Communication procedures
- d. Navigation
- e. Fuel management
- f. Metro/ATIS

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<u>PERIOD</u>	<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
	MOD 1-36 T-34C (R/C)	FORM-2	TWO PLANE FORMATION FLIGHT PROCEDURES AND COMMUNICATIONS	2.0

Discuss

Formation GCA/TACAN approach

Introduce

- a. Flight brief
- b. Formation TACAN approach
- c. Formation GCA approach
- d. Formation cruise

Practice

- a. Formation ground procedures
- b. Takeoff and departure
- c. Lead change
- d. Wingman communication
- e. Crew coordination communications

Review

- a. NATOPS limitations/emergency procedures
- b. NFO responsibilities
- c. Communication procedures
- d. Navigation
- e. Fuel management
- f. Metro/ATIS

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<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 1-37 T-34C (R/C)	VNAV-4	VISUAL NAVIGATION FLIGHT 4 (2 PLANE CRUISE FORMATION)	2.0

Introduce

Time estimates

Review

- a. NATOPS limits/emergency procedures
- b. NFO responsibilities
- c. Formation ground procedures
- d. Takeoff and departure
- e. Communication procedures
- f. ID turn points
- g. VNAV turn point procedures
- h. ID intermediate checkpoint
- i. VNAV hazard calls
- j. Fuel management/analysis
- k. Metro/ATIS analysis
- l. Crew coordination communications
- m. Wingman communication

TOTAL MOD 1 HOURS - ACADEMIC	21.5
- FLIGHT/SIM	43.5

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MODULE 2

OBJECTIVE: To further refine the SNFO's and SNAV's aviation, navigation (instrument and visual) and communication skills, and to introduce the SNFO and SNAV to multi-placed aircraft and their associated crew coordination procedures.

PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-1 Lecture	VN-6	T-1A/T-39 LOW LEVEL CHART, FUEL PLANNING, AND DD-175	2.0
MOD 2-2 Lecture	VN-7	T-1A/T-39 WIND ANALYSIS AND COMPENSATION	3.0
MOD 2-3 Lecture	VN-8	REVIEW	2.0
MOD 2-4 Exam	VN-9	EXAMINATION AND REVIEW	2.0
MOD 2-5 Lecture	NATOPS-1	T-1A/T-39 ENGINES	2.0
MOD 2-6 Lecture	NATOPS-2	T-1A/T-39 FUEL SYSTEM	2.0
MOD 2-7 Lecture	NATOPS-3	T-1A/T-39 ELECTRICAL	2.0
MOD 2-8 Lecture	NATOPS-4	T-1A/T-39 HYDRAULICS	2.0
MOD 2-9 Lecture	NATOPS-5	T-1A/T-39 FLIGHT CONTROLS	2.0
MOD 2-10 Lecture	NATOPS-6	T-1A/T-39 ANTI-ICE SYSTEM	2.0
MOD 2-11 Lecture	NATOPS-7	T-1A/T-39 ENVIRONMENTAL	1.0*
MOD 2-12 Lecture	NATOPS-8	T-1A/T-39 AVIONICS	1.0*
MOD 2-13 Lecture	NATOPS-9	T-39 G/N MODEL DIFFERENCES T-1A WHIZ BANG AVIONICS	1.0*

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-14 Lecture	NATOPS-10	T-1A/T-39 EMERGENCY PROCEDURES	1.0**
MOD 2-15 Lecture	NATOPS-11	T-1A/T-39 SYSTEMS REVIEW	3.0
MOD 2-16 Non-Flt	NATOPS-12	T-1A/T-39 FAMILIARIZATION 0	1.5
MOD 2-17 Exam	NATOPS-13	T-1A/T-39 EXAMINATION	1.5
MOD 2-18 Lecture	FP-1	T-1A/T-39 FLIGHT PREPARATION	3.0
MOD 2-19 Lecture	FP-2	T-1A/T-39 FLIGHT PREPARATION 2	2.0
MOD 2-20 Lecture	FP-3	T-1A/T-39 FLIGHT PREPARATION 3	2.0
MOD 2-21 Exam	FP-4	T-1A/T-39 FLIGHT PREPARATION 4 EXAM AND REVIEW	2.0

* These lectures are 2.0 hours for T-39 students.

** This lecture is 1.5 hours for T-39 students.

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-22 T-1A/T-39 NFO/NAV Flight Instructor (NFI)	ANAV-18	T-1A/T-39 AIRWAYS NAVIGATION FLIGHT 1	1.5

Introduce

- a. Systems knowledge
- b. Emergency procedures/PCL usage
- c. Equipment operation
- d. Scan
- e. Checklists
- f. Preflight/postflight
- g. Crew coordination
- h. WINFLIR

Practice

- a. Brief/procedures review
- b. Jet log
- c. DD-175/WX analysis
- d. Departure
- e. Radio communication
- f. En route course control/PT-PT
- g. Fuel management/analysis
- h. Time estimates
- i. Turn point procedures
- j. Approach

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<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
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MOD 2-23 T-1A/T-39 NFO/NFI	ANAV-19	T-1A/T-39 AIRWAYS NAVIGATION FLIGHT 2	1.5
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Practice

- a. Systems knowledge
- b. Emergency procedures/PCL usage
- c. Equipment operation
- d. Scan
- e. Checklists
- f. Preflight/postflight
- g. Crew coordination
- h. WINFLIR

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Departure
- e. Radio communication
- f. En route course control/PT-PT
- g. Fuel management/analysis
- h. Time estimates
- i. Turn point procedures
- j. Approach

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-24 T-1A/T-39 NFO/NFI	ANAV-20	T-1A/T-39 AIRWAYS NAVIGATION FLIGHT 3	2.3

Practice

- a. Systems knowledge
- b. Emergency procedures/PCL usage
- c. Equipment operation
- d. Scan
- e. Checklists
- f. En route delay #1
- g. En route delay #2
- h. Preflight/postflight
- i. Crew coordination
- j. WINFLIR

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Departure
- e. Radio communication
- f. En route course control/PT-PT
- g. Fuel management/analysis
- h. Turn point procedures
- i. Approach

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<u>REQUIREMENTS</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>DURATION</u>
MOD 2-25 T-1A/T-39 NFO/NFI	ANAV-21	T-1A/T-39 AIRWAYS NAVIGATION FLIGHT 4	2.3

Introduce

Route change during flight

Practice

- a. Systems knowledge
- b. Emergency procedures/PCL usage
- c. Equipment operation
- d. Scan
- e. Checklists
- f. En route delay (optional)/DRAFT
- g. Preflight/postflight
- h. Crew coordination
- i. WINFLIR

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Departure
- e. Radio communication
- f. En route course control/PT-PT
- g. Fuel management/analysis
- h. Time estimates
- i. Turn point procedures
- j. Approach

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-26 T-1A/T-39 NFO/NFI	VNAV-5	T-1A/T-39 VISUAL NAVIGATION FLIGHT 1	1.1

Introduce

- a. Base course/speed adjustments
- b. T-1A/T-39 VNAV procedures (1st leg)
- c. Wind analysis

Practice

- a. Low level chart
- b. Systems knowledge
- c. Emergency procedures/PCL usage
- d. Equipment operation
- e. Checklists
- f. ID turn points
- g. ID intermediate checkpoints
- h. Turn point procedures
- i. Time corrections
- j. Course corrections
- k. Fuel management/analysis
- l. Preflight/postflight
- m. Crew coordination
- n. WINFLIR

Review

- a. Scan
- b. Brief/procedures review
- c. Jet Log
- d. DD-175/WX analysis
- e. Departure/approach
- f. Radio communication

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REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-27 T-1A/T-39 NFO/NFI	VNAV-6	T-1A/T-39 VISUAL NAVIGATION FLIGHT 2	1.1

Practice

- a. Low level chart
- b. Systems knowledge
- c. Emergency procedures/PCL usage
- d. Equipment operation
- e. Scan
- f. Checklists
- g. ID turn points
- h. ID intermediate checkpoints
- i. Turn point procedures
- j. Wind analysis
- k. Base course/speed corrections
- l. Time corrections
- m. Course corrections
- n. Fuel management/analysis
- o. Preflight/postflight
- p. Crew coordination
- q. WINFLIR

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Departure/approach
- e. Radio communication

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PERIOD REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-28 T-1A/T-39 NFO/NFI	VNAV-7	T-1A/T-39 VISUAL NAVIGATION FLIGHT 3	1.1

Practice

- a. Low level chart
- b. Systems knowledge
- c. Emergency procedures/PCL usage
- d. Equipment operation
- e. Scan
- f. Checklists
- g. ID turn points
- h. ID intermediate checkpoints
- i. Turn point procedures
- j. Wind analysis
- k. Base course/speed corrections
- l. Time corrections
- m. Course corrections
- n. Fuel management/analysis
- o. Preflight/postflight
- p. Crew coordination
- q. WINFLIR

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Departure/approach
- e. Radio communication

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PERIOD

REQUIREMENTS	SYMBOL	DESCRIPTION	DURATION
MOD 2-29 T-1A/T-39 NFO/NFI	AVX-2X	T-1A/T-39 COMBINATION VISUAL AND INSTRUMENT CHECKFLIGHT	2.4

Review

- a. Brief/procedures review
- b. Jet Log
- c. DD-175/WX analysis
- d. Low level chart
- e. Systems knowledge
- f. Emergency procedures/PCL usage
- g. Equipment operation
- h. Departure
- i. Scan
- j. Checklists
- k. Preflight/postflight
- l. Crew coordination
- m. Radio communications
- n. ID turn points
- o. ID intermediate checkpoints
- p. VNAV turn point procedures
- q. Wind analysis
- r. Base course/speed adjustments
- s. Time corrections
- t. Course corrections
- u. Inst. turn point procedures
- v. En route course control/PT-PT
- w. Fuel management/analysis
- x. Time estimates
- y. Approach
- z. En route approach (if available)
- aa. WINFLIR

TOTAL MOD 2 HOURS - ACADEMIC	40.0
FLIGHT	13.3

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SECTION IIAPPENDIX ATERMINAL OBJECTIVES

The Intermediate Naval Flight Officer/Air Force Navigator Training Curriculum is designed to teach by reinforcement and amplification of the skills and knowledge required to safely aviate, navigate, communicate, manage aircraft systems, and describe two-plane formations in naval aircraft in both visual and instrument conditions. Upon satisfactory completion of this intermediate phase, the student will be able to perform the following terminal objectives.

1. Operate and assess an aircraft and its systems in accordance with NATOPS procedures and limitations, and Flight Training Instructions, reporting any anomaly to the instructor or pilot.
2. Navigate an aircraft via visual references and navigation instruments with instructor assistance, and through coordination with a pilot.
3. Compute and evaluate fuel requirements and en route times, factoring in the effects of aircraft performance, meteorological conditions, fuel requirements and en route times.
4. Communicate with appropriate Air Traffic Control facilities and other aircraft.
5. Use Flight Information Publications (FLIPs), Notices to Airmen (NOTAMs), and other applicable flight information needed to plan flights and operate in the Federal Aviation Administration's Air Traffic Control (ATC) system.
6. Determine the condition and readiness of an aircraft for flight during preflight and postflight.
7. Apply aircrew coordination concepts and procedures during aircraft operations.
8. Perform with instructor assistance specified aircraft maneuvers.
9. Direct, with instructor assistance, specified two-plane formation maneuvers.
10. Demonstrate adequate preparation for flight and mission accomplishment.

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ENABLING OBJECTIVES

The enabling objectives (EOs) listed below are grouped into ten areas which, when completed, will satisfy the corresponding terminal objectives. Upon satisfactory completion of the Intermediate Student Naval Flight Officer/Navigator Training Curriculum, the student will be able to perform the following EOs. Given one 2B37, T-34C or T-1A/T-39 aircraft, a thorough briefing, approved in-flight checklists, and publications, the student will be able to conduct dual flight with a qualified flight instructor on board providing instruction, assistance, or supervision.

<u>OPERATIONS</u>	<u>CONDITIONS</u>	<u>STANDARDS</u>
1. <u>Aircraft and Systems Operation</u>		
1-1. Locate and operate T-34C/T-1A/T-39 aircraft systems.	Given a mission in a T-34C or T-1A/T-39. In accordance with NATOPS.	Without error.
1-2. Describe the correct nomenclature, purpose, characteristics, functions, and limitations of T-34C/T-1A/T-39 aircraft systems.	Given an oral or written examination.	Without error.
1-3. Recall the T-34C/T-1A/T-39 aircraft servicing procedures.	Given an oral or written examination.	Without error.
1-4. Recall the T-34C/T-1A/T-39 all weather operating procedures.	Given an oral or written examination.	Without error.
1-5. Extract T-34C/T-1A/T-39 aircraft performance data from charts.	Given an oral or written examination.	Without error.

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OPERATIONS	CONDITIONS	STANDARDS
1-6. Perform T-34C/T-1A/T-39 checklists.	Given a mission in a T-34C or T-1A/T-39. In accordance with NATOPS.	Without error.
1-7. Operate T-34C/T-1A/T-39 within limitations.	Given a mission in a T-34C or T-1A/T-39. In accordance with NATOPS.	Without error.
1-8. Recall T-34C/T-1A/T-39 operating limitations.	Given an oral or written examination.	Without error.
1-9. Execute T-34C/T-1A/T-39 specified "immediate action" emergencies.	As required by flight instructor or during an actual emergency. In accordance with NATOPS.	Without error.
1-10. Recall T-34C/T-1A/T-39 specified "immediate action" emergency procedures.	Given an oral or written examination.	Without error.
<u>2. Navigation</u>		
2-1. Maintain or make recommendations to maintain a specified course.	Given a published standard instrument departure or approach.	Arcs \pm 1/2nm/2B37 & T-34C, 1nm T-1A/T-39; course \pm 3 degrees or 2nm (whichever is less).
2-2. Maintain or make recommendations to maintain a specified en route course, including TACAN point-to-points.	Given radio aids to navigation, FLIPs and appropriate charts.	\pm 5 degrees or 3nm (whichever is less).
2-3. Maintain or make recommendations to maintain a visual low-level course.	Given a specified course.	\pm 2nm.

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OPERATIONS	CONDITIONS	STANDARDS
2-4. Identify visual low-level course intermediate checkpoints and turnpoints.	Given a specified course.	Turnpoints 80% accuracy, intermediate checkpoints 50% accuracy.
2-5. Recommend air-speed adjustments to arrive on target on time on a visual low-level course.	Given a target time and a specified course.	T-1A/T-39 + 30 seconds, T-34C + 1 min.
2-6. Adjust or make recommendations to adjust preflight planned headings and airspeeds to compensate for the effects of wind.	Given a target time and a specified course.	+ 2 degrees and + 5 kts of instructor calculated course and airspeed.
2-7. Determine wind direction and speed.	Given a T-1A/T-39 mission.	+ 30 degrees, + 10 kts.
2-8. Determine wind direction and speed.	Given a T-34C mission.	+ 30 degrees, + 10 kts.
2-9. Maintain or make recommendations to maintain assigned and published altitudes.	Given a specified route or assigned a specific altitude.	In accordance with Federal Aviation Regulations.
2-10. Execute or make recommendations to execute holding procedures.	Given a specified holding course.	In accordance with Federal Aviation Regulations.
2-11. Fly or make recommendations to fly a course to enter a holding pattern.	Given a specified holding course.	In accordance with Federal Aviation Regulations and FTIs.
2-12. Execute or make recommendations to execute VFR entry and traffic pattern procedures.	Given a specified airfield.	In accordance with FLIP and local directives.

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OPERATIONS	CONDITIONS	STANDARDS
2-13. Determine glideslope position.	Given an aircraft and visual glide-slope indicator.	Without error.
2-14. Derive aircraft position using Dead Reckoning techniques.	Given a course.	<u>±</u> 5 miles.
2-15. Execute "DRAFT" in flight, as required.	Given instructor assistance, T-34C, T-1A/T-39, or simulator.	Without error.
2-16. With the instrument flying hood installed identify the aircraft position relative to an operable Tactical Air Navigation (TACAN)/VOR station.	Given a TACAN/VHF Omnidirectional Range (VOR) and Flip.	Without error.
<u>3. Fuel Requirements and En Route Time Calculations</u>		
3-1. Update destination Initial Approach Fix estimated fuel remaining and mission completion feasibility at each navigational checkpoint factoring in the effects of forecast and observed meteorological conditions.	Given a specified course, Flight Log, forecast weather, and observed weather.	<u>±</u> 1 min; fuel <u>±</u> 30 lbs for the T-34C, <u>±</u> 100 lbs in the T-1A/T-39.
3-2. Make recommendations to an alternate destination based upon estimated fuel requirements, and observed and forecast meteorological conditions.	Given a specified course, Flight Log, forecast weather, and observed weather.	Without error.

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OPERATIONS	CONDITIONS	STANDARDS
3-3. Update estimated time of arrival at destination.	Prior to flight given a specified course, Flight Log, and forecast weather.	+ 5 min of instructor's calculations.
3-4. Update estimated time of arrival at each navigational checkpoint and after each ground speed check.	Given a specified course and a Flight Log.	+ 1 minute of actual mark-on-top or mark abeam.
4. <u>Communications</u>		
4-1. Communicate via two-way radio using standard military and FAA terminology with appropriate agencies and aircrew during: a. ground operations b. departure c. en route d. formation flight e. arrival	Visual Meteorological Conditions (VMC), Instrument Meteorological Conditions (IMC), wingman, day and night, given assigned mission and route, in normal or emergency conditions.	With no errors that will preclude mission success.
4-2. Communicate with wingman using visual signals.	Given two-plane formation flight.	With no errors that will preclude mission success.
5. <u>Flight Planning</u>		
5-1. Prepare a visual low-level navigation chart.	Given a specified course and a Tactical Pilotage Chart (TPC).	Fuel + 40 lbs T-34C, + 100 lbs T-1A/T-39; time + 36 sec overall, + 18 sec T-1A/T-39, + 36 secs overall, + 24 sec at each Turn point, T-34C; course: + 2 degrees; plotting without error.

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OPERATIONS	CONDITIONS	STANDARDS
5-2. Complete a flight Log.	Given a mission, FLIPs, NATOPS, OPNAVINST 3710.7R.and forecast weather.	In accordance with appropriate PAT publication without error.
5-3. Determine mission completion feasibility based upon fuel requirements, ensuring adequate fuel reserves are available as set forth in OPNAVINST 3710.7R.	Given a specified course.	Without error.
5-4. Estimate time en route.	Given a specified course, Flight Log and forecast weather.	+ 5 min of instructors' calculations.
5-5. Complete a DD-175 using FLIP and Flight Log information.	Given a mission.	In accordance with appropriate PAT publication without error.
5-6. Obtain a weather brief resulting in a completed DD-175-1.	Given a mission.	In accordance with appropriate PAT publication without error.
5-7. Interpret a weather brief.	Given a DD-175-1.	Without error.
6. <u>Aircraft Condition</u>		
6-1. Review information (Visual Information Display System (VIDS)/Maintenance Action Forms (MAFs), Aircraft Inspection and Acceptance Records, etcetera) contained in aircraft discrepancy book to determine aircraft documented suitability for flight.	Given a mission with instructor and maintenance assistance.	In accordance with NATOPS.

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OPERATIONS	CONDITIONS	STANDARDS
6-2. Perform aircraft preflight and post-flight inspections.	Given a mission.	In accordance with NATOPS.
6-3. Observe completion of MAFs as necessary.	During pre/postflight.	Without error.
6-4. Complete applicable parts of a naval aircraft flight record (yellow sheet).	During pre/postflight.	Without error.
<u>7. Crew Coordination</u>		
7-1. Communicate with the pilot and instructor using proper format, phraseology, and terminology.	Given a mission.	With no errors that will preclude mission success.
7-2. Make recommendations to maintain proper aircraft flight parameters through the use of instrument scan.	Given a mission.	Heading \pm 5 degrees, <u>airspeed</u> + 10 kts, altitude <u>+ 100 ft.</u>
7-3. Use proper checklist discipline in an emergency (simulated or actual) situation as it differs from normal checklist procedures.	Given a mission.	Without error.
7-4. Coordinate aircraft operation with instructor (T-34C).	Given a mission, VMC, IMC, day or night.	In accordance with NATOPS and standard operating procedures.
7-5. Coordinate positive control of aircraft and transfer of control (T-34C).	Given a mission, VMC, IMC, day or night.	Without error.
7-6. Coordinate aircrew duties and responsibilities (T-34C and T-1A/T-39).	Given a mission, VMC, IMC, day or night.	In accordance with NATOPS and local instructions.

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OPERATIONS	CONDITIONS	STANDARDS
7-7. Coordinate operational control of aircraft systems (T-34C and T-1A/T-39).	Given a mission, VMC, IMC, day or night.	Without error.
7-8. Relay safety of flight information to pilot and instructor.	Given a mission, VMC, IMC, day or night.	Without error.
7-9. As appropriate make VNAV turnpoint, intermediate check-point, and hazard calls using proper format and terminology.	Given a mission.	Without error.
7-10. Execute instrument navigation turnpoint calls for each checkpoint.	Given a mission.	Without error.
8. <u>Aircraft Maneuvers</u>		
8-1. Maintain spatial orientation through the use of visual and instrument scan.	Given a mission.	75% accuracy.
8-2. Monitor specified flight maneuvers.	Given a mission.	Recognize and make recommendations to correct deviations of altitude ± 200 ft IFR, ± 300 ft VFR; heading 20 degrees; IAS 20 kts.
8-3. Perform specified flight maneuvers.	Given a 2B37 mission.	Recognize and attempt to correct deviations of altitude ± 200 ft IFR, ± 300 ft VFR; heading 20 degrees; IAS 20 kts.

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OPERATIONS	CONDITIONS	STANDARDS
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9. Formation Flight

9-1. Coordinate cruise formation maneuvers with instructor assistance recognizing relative motion and make recommendations to correct for deviations.	Given a T-34C and a wingman.	In accordance with FTIs.
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9-2. Describe standard formation maneuvers.	Given an oral examination and aircraft models/training aids.	Without error.
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10. Flight/Mission Preparation

10-1. Possess required flight material.	Given a mission and a mission briefing.	Without error.
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10-2. Recall required mission procedures and information.	Given a mission and a mission briefing.	90% accuracy.
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10-3. Recall previous mission procedures and information.	Given a mission and a mission briefing.	90% accuracy.
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MASTER MATERIALS LIST1. INDIVIDUALLY ISSUED MATERIALS

<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>	<u>COST EACH</u>
a. Course Books			
FORM FTI	CNATRA P-860	1	\$0.84
T-1A NATOPS Workbook	CNATRA P-861	1	2.58
T-39 NATOPS Workbook	CNATRA P-857	1	3.25
T-1A FLT PREP	CNATRA P-862	1	2.82
T-39G FLT PREP	CNATRA P-867	1	2.94
INAV FTI	CNATRA P-859	1	4.99
VNAV WORKBOOK Vol I (T-34)	CNATRA P-811	1	3.14
VNAV WORKBOOK Vol II (T-1A/T-39)	CNATRA P-812	1	2.95
CNATRAINST 1542.131A		1	0.96
b. DOD Flight Information Publications			
High Altitude En Route Charts		X	X.XX
Low Altitude En Route Charts		X	X.XX
High Altitude Instrument Approach Procedures		X	X.XX
Low Altitude Instrument Approach Procedures		X	X.XX
En Route US IFR Supplement		X	X.XX
c. Flight Information Handbook		X	X.XX
d. Tactical Pilotage Charts (TPC)		X	X.XX

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<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>STUDENT</u>	<u>EACH</u>
e. Single Engine Flight Log	CNATRA-GEN 3760/1	70	0.03
f. Flight Weather Brief	DD-175-1	2	0.02
*g. Aviation Training Jacket	CNATRA-GEN 1542/10B	1	0.70
*h. Naval ATJ Summary Card	CNATRA 1542/95	1	0.02
*i. Weekly Calendar	CNATRA-GEN 1542/12	4	0.03
*j. Jacket Review Divider	CNATRA-GEN 1542/66	1	0.01
*k. Academic Training Summary		1	0.01
*l. Synthetic Training Summary		1	0.01
*m. NFO Flight Summary		1	0.01

* Indicates a one time issue only. Items issued in Primary.

2. Aviation Training Forms (ATFs):

Operational Flight Trainer 5, OFT-5S	CNATRA 1542/1530	10-00	1
Operational Flight Trainer 6S, OFT-6S	CNATRA 1542/1322	10-00	1
Operational Flight Trainer 7S, OFT-7S	CNATRA 1542/1323	10-00	1
Operational Flight Trainer 8S, OFT-8S	CNATRA 1542/1324	10-00	1
Operational Flight Trainer 9S, OFT-9S	CNATRA 1542/1325	10-00	1
T-34C Airways Navigation Flight 7, ANAV-7	CNATRA 1542/1118	10-00	1
T-34C Airways Navigation Flight 8, ANAV-8	CNATRA 1542/1253	10-00	1

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<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER</u> <u>STUDENT</u>	<u>COST</u> <u>EACH</u>
T-34C Airways Navigation Flight 9, ANAV-9	CNATRA 1542/1119	10-00	1
T-34C Airways Navigation Flight 10, ANAV-10	CNATRA 1542/1120	10-00	1
T-34C Airways Navigation Flight 11, ANAV-11	CNATRA 1542/1254	10-00	1
T-34C Airways Navigation Flight 12, ANAV-12	CNATRA 1542/1255	10-00	1
T-34C Airways Navigation Flight 13, ANAV-13	CNATRA 1542/1256	10-00	1
T-34C Airways Navigation Flight 14, ANAV-14	CNATRA 1542/1531	10-00	1
T-34C Airways Navigation Flight 15, ANAV-15	CNATRA 1542/1532	10-00	1
T-34C Airways Navigation Flight 16, ANAV-16	CNATRA 1542/1533	10-00	1
T-34C Visual Navigation Flight 1, VNAV-1	CNATRA 1542/1104	10-00	1
T-34C Visual Navigation Flight 2, VNAV-2	CNATRA 1542/1105	10-00	1
T-34C Visual Navigation Flight 3, VNAV-3	CNATRA 1542/1106	10-00	1
T-34C Visual Navigation Flight 4, VNAV-4 (2 Plane Cruise Formation)	CNATRA 1542/1252	10-00	1

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<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>	<u>COST EACH</u>
T-34C Two Plane Formation, FORM-1	CNATRA 1542/1107	10-00	1
T-34C Two Plane Formation, FORM-2	CNATRA 1542/1108	10-00	1
T-34C Airways Navigation Flight 17, ANAV-17	CNATRA 1542/1534	10-00	1
T-34C Airways and Visual Navigation, AVX-1X	CNATRA 1542/1257	10-00	1
T-1A/T-39 Airways Navigation Flight 1, ANAV-18	CNATRA 1542/1121	10-00	1
T-1A/T-39 Airways Navigation Flight 2, ANAV-19	CNATRA 1542/1483	10-00	1
T-1A/T-39 Airways Navigation Flight 3, ANAV-20	CNATRA 1542/1122	10-00	1
T-1A/T-39 Airways Navigation Flight 4, ANAV-21	CNATRA 1542/1484	10-00	1
T-1A/T-39 Visual Navigation Flight 1, VNAV-5	CNATRA 1542/1124	10-00	1
T-1A/T-39 Visual Navigation Flight 2, VNAV-6	CNATRA 1542/1125	10-00	1
T-1A/T-39 Visual Navigation Flight 3, VNAV-7	CNATRA 1542/1485	10-00	1
T-1A/T-39 Visual and Instrument Checkflight, AVX-2X	CNATRA 1542/1126	10-00	1

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3. SUPPORT MATERIALS

<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>	<u>COST EACH</u>
a. NATOPS General Flight and Operating Instruction	OPNAVINST 3710.7R	50*	\$2.50
b. Plotter	(FSN)6605006938388	300*	2.38
c. Divider	(FSN)6605002435015	300*	3.04
d. CR2 Computer	(FSN)6605009284452	300*	9.00
e. NATOPS Instrument Flight Manual		2*	2.50
f. DOD FLIPs (Subscription Prices)			
(1) General Planning		25*	X.XX
(2) Area Planning 1		25*	X.XX
(3) Area Planning 1A		25*	X.XX
(4) Area Planning 1B		25*	X.XX
g. Airman Information Manual	(NSN)290-3170-91-1	75*	X.XX
h. Radio Magnetic Indicator	(NSN)6910-00-101-7730	300*	0.77
i. T-34C NATOPS Flight Manual	NAVAIR 01-T-34AAC-1	300*	3.50
j. T-34C NATOPS Pocket Checklist	NAVAIR 01-T-34AAC-1B	300*	4.72
k. T-1A/T-39 NATOPS Flight Manual	UNKNOWN	300*	X.XX
l. T-1A/T-39 NATOPS Pocket checklist	UNKNOWN	500+*	X.XX
m. VR 1020 Low-Level Training film		1*	X.XX

* Quantity is per training site

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4. AIRCRAFT AND MAJOR TRAINING DEVICES

- a. Aircraft T-34C
- b. Aircraft T-1A
- c. Aircraft T-39
- d. Operational Flight 2B37
Trainer

Quantity controlled by Naval Air Warfare Center Training Systems Division (NAVAIRWARCENTRASYS DIV), Training Material Management Division, Inventory Control Branch (Code 5204). Cost listed in NAVAIRWARCENTRASYS DIV Directory of Naval Training Devices, Cognizance Symbol 2"0".

- e. Cockpit Trainer 12BK15A

Quantity controlled by NAVAIRWARCENTRASYS DIV, Training Material Management Division, Inventory Control Branch (Code 5204). Cost listed in NAVAIRWARCENTRASYS DIV Directory of Naval Training Devices, Cognizance Symbol 2"0".

- f. Cockpit Procedure 2C42
Trainer

Quantity controlled by NAVAIRWARCENTRASYS DIV, Training Material Management Division, Inventory Control Branch (Code 5204). Cost listed in NAVAIRWARCENTRASYS DIV Directory of Naval Training Devices, Cognizance Symbol 2"0".

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5. COST DATA SOURCES

- | | |
|---|---|
| a. CNATRA Peculiar to Aviation Training (CNAT PAT) Publications | Defense Printing Service Detachment Branch Office, NAS Corpus Christi, TX |
| b. Flight Planning Publications | DOD Mapping Service, St. Louis, MO |
| c. NATOPS Publications | Navy Tactical Support Activity (NAVTACSUPPACT WNY) Washington, DC |
| d. OPNAV Forms | NAVSUP #20002 |
| e. Training Panels | NAVAIRWARCENTRASYS DIV Orlando, FL |
| f. Training Films | U. S. Navy Photographic Center, N.S. Washington, DC |

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