

AIR FORCE

**CAREER
PATHS**



Gregory L. Gross Col USAF (Ret) - Jeff Zeter



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**CAREER
PATHS**

AIR FORCE

BOOK

1

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Scope and Sequence

Unit	Topic	Vocabulary	Function
1	Parts of an Airplane	aileron, cockpit, elevator, fixed wing, flap, fuselage, horizontal stabilizer, landing gear, nose, rudder, tail, turbine engine, turboprop, vertical stabilizer, wing	Identifying objects
2	Parts of a Helicopter	cowl, mast, motor mount, rotary-wing aircraft, rotor blade, skid, stabilizer bar, swashplate, synchronized elevator, tail boom, tail rotor, tail skid	Showing agreement
3	Spatial Relationships	above, ascend, axis, below, descend, dive, maneuver, pitch, rise, roll, yaw	Giving advice
4	Radio Communication	affirmative, connection, negative, over, phonetic alphabet, proword, radio communication, roger, say again, wilco	Asking for repetition (radio)
5	Rank Structure	airmentier, captain, colonel, company-grade officer, enlisted, field-grade officer, general, lieutenant, major, NCO tier, rank, Senior NCO Tier, flag officer	Greetings
6	Base Structures	BX, consolidated support building, dormitory, family housing, law enforcement armory, officer's club, commissary, pass and registration office	Offering suggestions
7	NATO Organization	ACO, ACT, AOR, JFC, JFTC, JWC, military committee, NATO, SACEUR, SACLANT, SHAPE, NURC	Confirming information
8	Military Organization	flight, group, maintenance group, medical group, mission support group, operations group, squadron, subcommand, wing, wing staff	Expressing possibility
9	Training	AFSC, Basic Military Training, basic situational awareness, CBRNE, defensive fighting positions, entry control point, expeditionary training, IED familiarization, technical training	Talking about certainty
10	Uniforms	Airman Battle Uniform, flight suit, headgear, insignia, Mess Dress, Service Dress, Utility Uniform	Defining / Explaining
11	Pilot	airlift, contact flight, ENJJPT, formation flight, Initial Flight Screening, instrument flight, low-level flight, SUPT, tanker	Emphasizing difficulty
12	Air Traffic Control	Air Traffic Controller, airfield, airspeed, altitude, certify, compute, direct, maintain, plot, relay, runway, stress, taxi	Checking information
13	Maintenance	condition, fuel, fully mission capable, functional, hydraulic fluid, inspection, maintenance, preventative, repair	Offering solutions
14	Pararescue	CPR, injured, paramedic, pararescue, Physical Ability and Stamina Test, PJs, proficient, scuba, search and rescue, treat	Checking if someone understands you
15	Weather	analyze, atmosphere, atmospheric pressure, cloud, computer model, fog, forecast, front, ground, gust, hail, hub, icing, lightning, meteorology, oceanography, precipitation, predict, snow, temperature, thunderstorm, turbulence, windspeed	Making comparisons

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2

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Scope and Sequence

Unit	Topic	Vocabulary	Function
1	The Fighter Jet	afterburner, cannon, canopy, countermeasures, electro-optical targeting system, fly-by-wire controls, Mach, missile, thrust nozzles, turbofan, weapons bay	Asking for repetition
2	UAVs	air interdiction, CAS, decoy, drone, dummy, expendable, ISR, munitions, onboard, recoverable, remote control, simulate, target, target acquisition, UAV	Getting someone's attention
3	The Bomber	blended-wing body, bomb bay, defensive weapon, fighter-bomber, long-range strike mission, strategic bomber, strategic target, swept-wing body, tactical bomber, tactical target	Confirming
4	Cargo Airplanes	aeromedical evacuation, airdrop, airland, airlift, airlifter, cargo, deployment, intercontinental, military operations other than war, pallet, redeployment, sustainment	Talking about figures
5	Gunships	air superiority, area saturation, banking turn, convoy, escort, force protection, gunship, side-firing, strafe, surgical firepower, target of opportunity	Expressing opinion
6	Tankers	aerial refueling boom, automatic load alleviation system, boom operator, drogue, flying boom, independent disconnect system, multi-point refueling system, probe, refuel, tanker, wingtip pod	Showing agreement
7	Reconnaissance Aircraft	airborne battle management, Command and Control, radar, radar dome, reconnaissance, rotodome, strut, surveillance, theater, wingspan	Describing features
8	Helicopters	armor plating, Combat Search and Rescue, folding rotor blades, forward looking infrared system, hoist, hover, lift capacity, low-level operations, machine guns, resupply, Search and Rescue, special operations	Checking understanding
9	Cruise Missiles	automatic target recognition, Digital Scene-Mapping Area Correlator, Global Positioning System, inertial navigation system, missile, non-ballistic, nuclear-capable, tail assembly, Terrain Contour Matching, warhead	Comparing and contrasting
10	Suppression of Enemy Air Defense	AGM-HARM missile, air defense system, Air Launched Anti-Radiation Missile, air-to-surface, anti-aircraft artillery, anti-radiation missile (ARM), cluster bombs, ground-based radar, jammer, soft target, Suppression of Enemy Air Defense	Making assumptions
11	Humanitarian Operations	disaster relief, dislocated civilian, food distribution, humanitarian, International Organization, Medical Civic Action Program, medical staff, non-government organization, Noncombatant Evacuation Order, refugee	Emphasizing a point
12	Counterterrorism Operations	civilian, collateral damage, counter-insurgency, counterterrorism, extraction, Foreign Internal Defense, heliborne, host nation, insertion, preemptive, strike, surveillance platform, targeted elimination	Making suggestions
13	Counter-drug Operations	detect, deter, disrupt, drug smuggling, illicit narcotics, interdiction, Joint Interagency Task Force, submersible, Theater Security Cooperation Strategy, Watercraft	Congratulating
14	Small Scale Contingencies	escalate, force structure, limited intervention, localized conflict, major theater war, mission creep, no-fly zone, regional stability, show of force, Small Scale Contingency, sortie	Giving a warning
15	Close Air Support	close air support, danger close, detailed integration, Forward Air Controller, friendly forces, hostile target, Joint Terminal Attack Controller, maximum, proximity, Tactical Air Control Party	Confirming information

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Scope and Sequence

Unit	Topic	Vocabulary	Function
1	Fighter Unit	ace, advance, battle honor, battle zone, bring down, dissimilar tactics, hit-and-run, kill, strategy, sortie	Eliciting more information
2	Bomber Unit	air support, aircraft carrier, airfield, B-25 Mitchell, B-26 Marauder, campaign, combat launch, Doolittle Raid, fortified, modified, morale, retaliatory	Giving an example
3	Search and Rescue Unit	Air Force Cross, combat controller, covering fire, CSAR Team, down, incident site, pararescue technician, relief convoy, RPG, Silver Star, special tactics squadron, triage point	Requesting information
4	Targets	area target, contact, danger close, degree of protection, effects-based targeting, emerging target, JSTARS, number of elements, positive identification, target-rich environment	Showing understanding
5	Air-to-Air Missiles	Air-to-Air Missile, beyond-visual range AAM, detonate, head on, heat-seeking, maximum engagement range, Medium Range AAM, proximity fuse, Short Range AAM, Within-Visual Range AAM	Giving permission
6	Air-to-Surface Missiles	AGM-65 Maverick, Air-to-Ground, Air-to-Surface, anti-ship, anti-tank, delayed fuse, evasive action, hard target, launch-and-leave, modular design, probability of damage, standoff distance, gunline	Describing visual information
7	Surface-to-Air Missiles	armored vehicle, command, decoy flares, infrared missiles, laser guided, launcher, line-of-sight, Man-Portable Air-Defense System, range, SAM, shoulder-launched	Giving advice
8	Cannons	armor piercing, caliber, cannon, cartridge, gatling gun, high-explosive dual purpose, muzzle velocity, overheat, rate of fire, recoil adapter, rounds per minute	Requesting advice
9	Anti-Ship and Anti-Submarine	AGM-84 Harpoon, anti-ship, anti-submarine, depth charge, Laser Detection And Ranging, Magnetic Anomaly Detector, midcourse guidance, mine, sea-skimming, surface ship, torpedo	Talking about possibility
10	Centers of Gravity	attrition, Center of Gravity, critical vulnerability, decisive point, fielded forces, infrastructure, law of armed conflict, leadership, operational processes, payoff, popular will, strategic, weapons cache	Estimating
11	Surprise Attack	asymmetric force strategy, decisive maneuver, direct effect, flexibility, force-on-force engagement, freedom of action, indirect effect, parallel operations, precision employment, range, surprise, time on target	Describing results
12	Strategic Attack	achieve, avoid sequential fight, effects-based, fighter sweep, master attack list, offensive counter air, operational level, operational objective, strategic attack, strategic objective, tactical-level	Describing cause and effect
13	Psychological Effects	acquiesce, adversary, broadcast, coerce, diplomatic initiative, incite, jam, political climate, propaganda, psychological effect, psyop, reduce, shock and awe, will to fight	Agreeing / Disagreeing
14	Joint Air Attack Team	Air Tasking Order, battlefield coordination detachment, coordinating measures, fire support, forward air controller, JAAT, jeopardize, JOAC, subordinate, theater airlift	Seeking permission
15	Phases of Attack	air parity, air superiority, battle damage assessment, combat assessment, commander-in-chief, execute, Joint Direct Attack Munition, measures of merit, mission flow, prioritize, target set	Asking for explanation

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1 Aircraft: The Fighter Jet



F-22 Raptor

Military leaders seeking air superiority will turn to one type of aircraft: the fighter jet. Fighters are small, highly maneuverable, high-speed aircraft equipped with powerful weapons for air-to-air combat. Fighter pilots sit at the front of the aircraft in the cockpit beneath a transparent **canopy**. A fighter jet’s fuselage holds one or more **weapons bays** containing bombs or **missiles**. Fighter jet engines use **thrust nozzles** to constrict airflow and cause jet propulsion that reaches **Mach** speeds. Many fighter jets have **turbofan** engines for quieter, more efficient flight. Most have an **afterburner** for additional thrust during takeoff and in critical air-combat situations.

Modern fighter jets are equipped with sophisticated weaponry and flight technology. **Fly-by-wire controls** automatically react to atmospheric conditions without pilot input. A front-firing **cannon** with several hundred rounds can destroy enemy aircraft. **Electro-optical targeting** systems track targets with deadly precision, and self defense systems enable pilots to apply **countermeasures** against incoming missiles. These characteristics make fighter jets the primary weapons for maintaining air superiority in military conflicts.

Comprehension

1 Read, listen, and answer the questions.

- 1 What operations do fighters complete?
- 2 What increases fighter speeds in combat?
- 3 What weapons can fighters use?

Vocabulary

2 Label the parts of a fighter jet shown in each picture.



1



2



3



4



5

3 Match the definitions (A-F) to the correct terms (1-6).

- 1 ___ Mach
- 2 ___ afterburner
- 3 ___ thrust nozzle
- 4 ___ countermeasure
- 5 ___ fly-by-wire control
- 6 ___ electro-optical targeting system

- A a part of a jet engine that increases pressure
- B a unit of speed measurement
- C an electronic system of automatic flight control
- D a piece of equipment that detects and tracks targets
- E a part of a jet engine that creates extra thrust
- F a device that prevents weapons from striking targets

Listening

4 Listen to an instructor testing a pilot in flight school. Complete the notes on the aircraft that they discuss.

Aircraft 1:
MiG 35

Speed:
 (1)

Service Ceiling:
 (2) meters

Aircraft 2:
 (3)

Speed:
 (4)

5 Listen again, and mark the statements as true (T) or false (F). Correct the false statements.

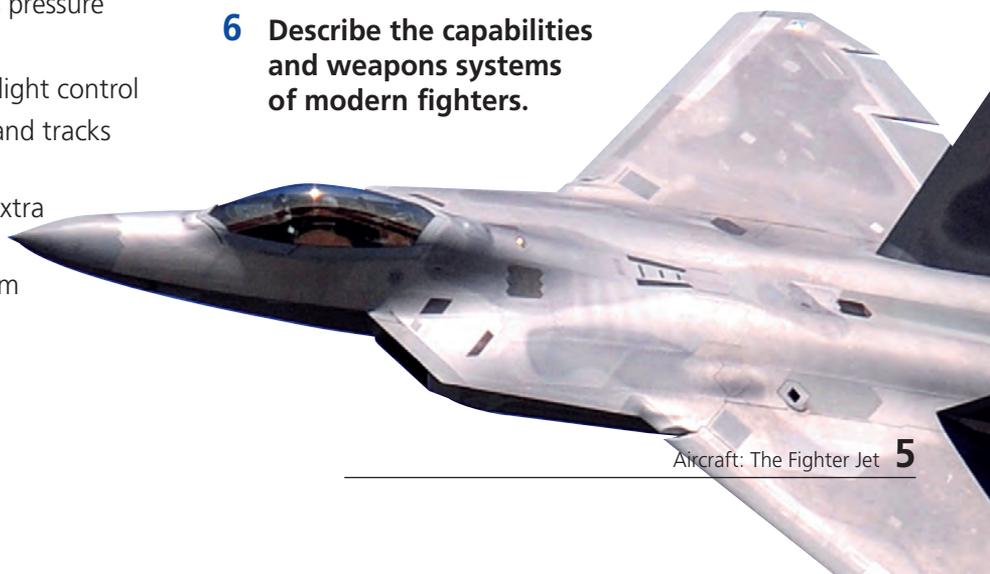
- 1 ___ Neither aircraft discussed can fly above the speed of sound.

- 2 ___ An F-35 Lightning II is faster than a MiG-35.

- 3 ___ The MiG-35 is equipped with afterburners.

Speaking

6 Describe the capabilities and weapons systems of modern fighters.



13 Jobs: Maintenance



In combat, a flight crew's lives depend on their aircraft. A mechanical failure could mean death, so military aircraft require regular **maintenance** to keep them **functional** and in good **condition**. Before and after every flight, maintenance personnel perform **preventative inspections**. This assures that aircraft are **fully mission capable (FMC)**. They check every aspect of the aircraft from **fuel** levels to **hydraulic fluid**. If they find a problem, it must be **repaired** before clearing the aircraft for flight.

Aircraft maintenance is a great responsibility. It requires mechanical and electrical knowledge. Maintenance personnel also receive special training from expert mechanics before and during every deployment. Pilots may get all the glory, but they would have no aircraft without skilled maintenance crews on the ground.

Comprehension

1 Read, listen, and mark the statements as true (T) or false (F). Correct the false statements.

- ___ Maintenance personnel check aircraft before and after every flight.
.....
- ___ Maintenance personnel repair problems during flights.
.....
- ___ Maintenance personnel receive training before deployment.
.....

Vocabulary

2 Complete the word with the same meaning as the underlined part.

- What is the *state* of that MH-60?
_ o _ _ t _ _ n
- The aircraft failed an *evaluation*.
i _ _ p _ _ t _ _ _
- Is that rotor *working properly*?
f _ _ c _ _ _ n _ l
- The rudder needs to be *fixed*.
_ e _ _ i _ e _

3 Complete the sentences with the terms below.

fully mission capable preventative
maintenance hydraulic fluid fuel

- Aircraft that are not will not be cleared for flight.
- allows pilots to adjust flaps without struggling.
- inspections ensure that problems are fixed before a flight.
- Tankers provide in-flight.
- Good prevents accidents.

Listening

4 Listen to two maintenance personnel. Complete their report as you listen.

C-130 CA-122 is not 1) There is a 2) in the 3) We could try to 4) it, but that might not fix the problem. I recommend that we 5) the line. That will ensure the aircraft is safe to fly.

Speaking

5 You are a maintenance worker. Explain why an aircraft is not operationally ready.



PJs carrying out search and rescue operations

“That others may live”: that is the motto of the Air Force’s Special Operations **pararescue** technicians.

These highly-trained experts, known as **PJs**, conduct personnel recovery operations in combat zones. They often put their own lives at risk. They also perform **search and rescue (SAR)** operations for civilians.

No matter where someone is lost, PJs can reach them. They are even **proficient** in **scuba** diving for underwater operations. Often, troops needing rescue are also **injured**. For that reason, PJs are also excellent **paramedics**. They can **treat** battle wounds and provide **CPR**.

But PJs must be in excellent physical condition. Before becoming a PJ, airmen must pass a difficult test. Only the strongest airmen pass the **Physical Ability and Stamina Test (PAST)**.

Comprehension

1 Read, listen, and choose the correct answers.

- 1 What is the main responsibility of a pararescue technician?
 - A engaging in combat
 - B providing CPR training
 - C conducting personnel recovery
- 2 What type of actions are PJs NOT trained for?
 - A underwater rescues
 - B treating injuries
 - C flying aircraft
- 3 What can you infer about PJs?
 - A They only conduct military rescues.
 - B They must be stronger than most airmen.
 - C They can provide long-term medical care.

Glossary

operational level combat [N-U-U12] fighting to achieve the goals of a military operation

operational objective [N-C-U12] the predetermined goal of a military operation

operational processes [N-C-U10] systems that allow military groups to perform various actions such as communicating, transporting troops and carrying out missions

overheat [V-U8] become too hot

parallel operations [N-C-U11] simultaneous attacks on multiple targets for the purpose of overwhelming the enemy

pararescue technician [N-C-U3] a special operations officer trained to conduct CSAR operations

payoff [N-U-U10] the beneficial result of a military operation

phase [N-C-U15] a period of an operation when large groups of forces engage in similar or supportive activities

political climate [N-C-U13] the current political situation in a region

popular will [N-U-U10] the interest or desire of the general population in a particular area

positive identification [N-C-U4] the definite recognition of a target as an enemy

precision employment [N-U-U11] the direct use of force against a target

prioritize [V-T-U15] decide what is most important

probability of damage [N-U-U6] the likelihood that a specific object will be damaged

propaganda [N-U-U13] information that is distributed to promote an idea

proximity fuse [N-C-U5] a fuse that detonates when a missile is within a specified distance from a target

psychological effect [N-C-U13] the effect that something has on people's minds and emotions

psyops [N-C-U13] military and nonmilitary activities that cause psychological effects

range [N-C-U7] the distance that a missile can travel

range [N-U-U11] the extent of a military unit's capabilities

rate of fire [N-C-U8] the speed at which a weapon discharges its ammunition

recoil adapter [N-C-U8] a device that absorbs the backward momentum of a weapon when it is fired

relief convoy [N-C-U3] a set of ground vehicles that resupply or rescue ground forces

retaliatory [ADJ-U2] done to avenge a previous action

rocket-propelled grenade (RPG) [N-C-U3] a shoulder-launched weapon that fires a rocket with an explosive warhead

rounds per minute [N-C-U8] the number of bullets or shells that a weapon can discharge in one minute

sea skimming [N-U-U9] an anti-ship missile technique to avoid radar detection by flying close to the water

sequential fight [N-U-U12] the act of fighting through multiple levels of an opponent's forces

shock and awe [N-U-U13] a type of psyop that overwhelms an enemy by displaying massive amounts of firepower

Short Range AAM [N-PROP-U5] a missile with a range of 1000 km

shoulder-launched [ADJ-U7] fired while held on someone's shoulder

Silver Star [N-PROP-U3] the third-highest military decoration in the US armed forces

sortie [N-C-U1] an operational flight taken by a single aircraft

Special Tactics Squadron [N-C-U3] a group of highly trained personnel that conduct extremely difficult and dangerous operations

standoff distance [N-C-U6] the safe distance away from a missile explosion

strategic [ADJ-U10] interfering with a vital part of an enemy's defense system

strategic attack [N-C-U12] a military operation designed to gain a disproportionate advantage over an enemy

strategic objective [N-C-U12] the predetermined goal of a strategic attack

strategy [N-C-U1] a method

subordinate [ADJ-U14] of lesser rank

surface ship [N-C-U9] a ship that only travels on the water's surface

Surface-to-Air Missile [N-C-U7] a missile that targets aircraft and is launched from the ground

surprise [N-U-U11] being unexpected

target development [N-U-U15] the process of looking at potential targets to decide what action is needed to meet operational objectives

target-rich environment [N-C-U4] an area that has multiple potential targets

target set [N-C-U15] a group of targets

theater airlift [N-C-U14] the use of aircraft to transport personnel into or out of a combat area

Time on Target [N-U-U11] a technique of firing weapons so that all rounds reach the target at the same time

torpedo [N-C-U9] an underwater self-propelled explosive

triage point [N-C-U3] a location where medical personnel assess the needs of the wounded

weaponeeing assessment [N-U-U15] the process of deciding which weapons should be used to meet operational objectives

weapons cache [N-C-U10] a hidden collection of weapons

will to fight [N-U-U13] the motivation to engage in warfare

Within-Visual-Range AAM [N-PROP-U5] a missile with a range of 37 km

AIR FORCE

Career Paths: Air Force is a new educational resource for people who are serving or intending to serve as professionals in the aerial division of the armed forces, and who want to improve their English communication skills in a profession-oriented environment.

Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the key language components. **Career Paths: Air Force** addresses topics including: the parts, types and functions of aircraft; air force organization and training; the range of air force career specializations; the types and characteristics of air force weaponry; air force tactics and strategy; and many more.

The series is organized into three levels of difficulty and offers over 500 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary, and listening skills, and leads students through written exercises and oral production.

Included Features:

- A variety of realistic reading passages
- Career-specific dialogues
- 45 reading and listening comprehension checks
- Over 400 vocabulary terms and phrases
- Guided speaking and writing exercises
- Complete glossary of terms and phrases

The **Teacher's Guide** contains detailed lesson plans, a full answer key and audio scripts.

The **audio CDs** contain all recorded material.



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