

Space Operations

1. Introduction

a. Purpose. The United States Army is the largest user of space-based capabilities in the Department of Defense (DOD). Access to these capabilities is achieved through the Warfighting functions of Army Space Operations Soldiers and Civilians. At the core of the Army's Space Operations force, Functional Area 40 (FA40) Space Operations Officers provide in-depth expertise and experience to leverage space-related assets, which enable the Army across all warfighting functions down to the lowest echelon. Space operations have two distinct career paths: Space Operations Officer (FA40A) and Army Astronaut (FA40C). Selection to FA40A or FA40C is two distinct and separate processes. Space Operations Officers serve in operating and generating force positions supporting the Army and Joint, Interagency, Intergovernmental and Multinational (JIIM) organizations that focus on delivering space capabilities to the Warfighter today as well as developing and integrating space capabilities for the future. Space Operations Officers are integrated into operations and planning positions at all organizational levels and positions that influence/shape, research, and develop and acquire space-related capabilities. Although forty percent of Space Operations Officer billets reside within the United States Army Space and Missile Defense Command (USASMDC), the remaining positions range from serving in a Special Operations Group to the Office of the Secretary of Defense (OSD). Included in those billets are the National Space Defense Center (NSDC), Defense Intelligence Agency (DIA), and the Department of the Army (DA) staff. FA40C provides the opportunity for officers selected by the National Aeronautics and Space Administration (NASA) to serve as astronauts for human exploration of space.

b. Proponent Information. The Commander, USASMDC is the personnel developer for Space Operations Officers. The Director, Space and Missile Defense Center of Excellence execute those duties on behalf of Commander, USASMDC. The Director, Army Space Personnel Development Office (ASPDO), is the focal point for all Space Operations Officer matters. Space Operations Officers are managed within the Operations Support functional category. Contact ASPDO through email at aspdo@army.mil or our Army Space Knowledge Management System (ASKMS) website <https://army.deps.mil/army/sites/ASKMS> (use your CAC-Authentication certificate when prompted). Additionally, you can find the Space Operations blog on Army Career Tracker (ACT) webpage at <https://actnow.army.mil>.

c. Definition: The Army's subject matter expert on movement and maneuver in, through, and using the Space Domain to provide timely, relevant, and feasible options to the staff and commander for targeting, fires, collection, operations, and sustainment of the force. The most effective Space Officers have the freedom to maneuver across the breadth and depth of the staff, understanding the Commander's priorities to sequence and integrate Space in all facets of the operation.

d. Functions.

(1) Space Operations Officers serving in operating force positions deliver space capabilities to the warfighter. They plan and specialize in integrating Space Operations into the Military Decision-Making Process (MDMP) and the Joint Planning Process (JPP). Space Operations Officers advise commanders and their staffs concerning the availability, use, and interface of space capabilities. In addition, they synchronize, optimize and de-conflict the use of space resources with the commander's staff and across the warfighting functions. Space Operations Officers provide commanders with the space estimate and the space annex (Annex N) for operations orders. Space Operations Officers serve as the command's subject matter expert on all matters about space to fully understand the highly technical tools utilized in operational planning and execution. Training prepares Space Operations Officers to comprehend, enable, and improve how the operating force uses space capabilities and to know the space-based products they require and produce. Training also enables them to understand the reliance of military units on space assets and the effects when those capabilities are unavailable, degraded, or denied and know how to prevent, mitigate, or work through and continue operations under such conditions. Space Operations Officers must also integrate space capabilities into Army and joint fires to include cyber, electronic warfare, and information operations.

(2) Space Operations Officers serving in generating force or capabilities development positions have the unique ability to influence the future of Army Space Operations through doctrine development, research and development, acquisition, policy development, concepts and capabilities development, and training and education. In addition to positions on the Army Staff or within USASMDC, Space Operations Officers serve in various JIIM organizations and positions.

(3) Officers selected to serve as Army Astronauts are detailed to NASA to support the nation's human space flight programs. The Director of Flight Crew Operations at NASA's Johnson Space Center (JSC) determines astronaut areas of training and application, including the International Space Station (ISS) and any future space vehicle or mission. For more information on Army Astronauts, see section 4 Army Astronauts.

2. Officer Characteristics Required

a. Characteristics required of all officers. The Army expects all officers to possess the base characteristics that will enable them to develop into agile and adaptive leaders. Leaders must be grounded in Army Values and the Warrior Ethos, competent in their core proficiencies, and broadly experienced to operate across the full spectrum of conflict. They must operate with JIIM partners and leverage capabilities beyond the Army in achieving their objectives. Officers must be culturally astute and able to use their awareness and understanding to conduct operations innovatively and courageously to exploit opportunities in the challenges and complexities of the operational environment. Reference Army Doctrine Publication (ADP) 3-0, *Unified Land Operations*, Army Doctrine Reference Publication (ADRP) 3-0, *Unified Land Operations*, and Chapter 3 of this publication, for further explanation of these characteristics.

b. Unique knowledge of a Space Operations Officer. Space Operations Officers must understand how space systems can contribute to military operations and how to apply space capabilities to contribute to a wide range of military operations. Space Operations Officers must possess knowledge of military, civil and commercial space organizations and systems including system architecture, equipment, capabilities, limitations, software applications, tools, and services. This knowledge is essential to integrating space capabilities into MDMP and JPP. Possessing technical and tactical skills and understanding strategic and operational concepts, including space-enhanced threats, Space Operations Officers must:

(1) Remain current on organizational structure, space doctrine (JP 3-14 and FM 3-14), and policy (AR 900-1) as well as military, civil, and commercial space activities as they relate to all levels of military operations. Additionally, they must understand how space capabilities enhance Army systems and enable all Warfighting functions.

(2) Understand and apply the interrelationship between space capabilities and their operational utility to the operational environment.

(3) Provide timely and accurate advice to commanders and staffs on space events' operational impacts.

(4) Possess an understanding of automation technology relative to the Space Operations field. In addition, they need to be aware of other branches and functional areas that have similar functions, such as cyber, electronic warfare, and information operations.

(5) Have a basic understanding of orbital mechanics, mathematics, physics, engineering, and communications.

(6) Possess knowledge of other nation's space capabilities, the space structure within DOD, and US and DOD policies and strategies related to space. Be well versed in the warfighting functions and Space Operations with JIIM partners.

(7) Understand acquisition, Joint Capabilities Integration Development System (JCIDS), and capabilities development when entering shaping or capabilities development positions.

(a) Understand how the Army staff operates and advocate for space needs.

(b) Understand how DoD and inter-agencies operate and advocate for Army space needs.

(8) Understanding of International law and treaties and US policy concerning:

(a) Use of space-based capabilities.

(b) Use or application of systems that affect or specifically target space systems.

(9) Understand the potential employment of technical space concepts to enhance unified land operations. These include, but are not limited to:

(a) Remote sensing across the entire electromagnetic spectrum to include radio frequency, electro-optical, infra-red, multi-spectral, hyper-spectral, and radar.

(b) Geospatial sensing.

(c) Communications architecture and networks.

(d) Missile warning.

(e) Information operations (IO) that support or require the support of Space Operations.

(f) Cyber operations that require the support of Space Operations.

(10) Know the limitations and vulnerabilities of space systems to weather (space and terrestrial), interference, and infrastructure failures and attack (kinetic and non-kinetic).

(11) Understand the reliance of military units on space assets and the effects when those capabilities are unavailable, degraded, denied, or disrupted, and know how to work through and continue operations under such conditions.

(12) Integrated Joint Special Technical Operations (IJSTO): During OIF/OEF, nine percent of the Space Operations Officer population constituted eighty percent of the Army's division and corps IJSTO leadership positions and thirty-three percent of the Army's total IJSTO leadership positions. These include both IJSTO chief and senior IJSTO planner positions. Space Officers must enhance their viability and credibility by seeking opportunities to serve in space-related positions such as IJSTO and alternative compensatory control measures. IJSTO, although not space-specific, offers Space Officers an opportunity to integrate and synchronize efforts with other like disciplines to provide synergistic effects.

c. Unique skills of a Space Operations Officer. Space Operations Officers bring space capabilities to the warfighter. The Army requires technically trained and tactically experienced Space Officers to integrate and defend all space capabilities for Joint land component operations. Space Operations Officers must:

(1) Utilize and integrate space capabilities with terrestrial, air, sea, and high-altitude-based systems owned and operated by DOD, the intelligence community, civil agencies, and commercial partners to provide integrated and timely capabilities to the warfighter. Army Space Operations, duties, and responsibilities center on these eight codified joint space capabilities (as defined in JP 3-14 and FM 3-14):

(a) Space Situational Awareness (SSA). It is the requisite current and predictive knowledge of the space environment and the operating environment upon which Space Operations depend. SSA involves characterizing, as completely as necessary, the space capabilities operating within the terrestrial environment and the space domain. SSA is dependent on integrating space surveillance, collection, and processing; environmental monitoring, processing, and analysis; status of US and cooperative satellite systems; a collection of US and multinational space readiness; and analysis of the space domain. It also incorporates intelligence sources to provide insight into adversary use of space capabilities and their threats to our space capabilities while contributing to the joint force commander's ability to understand adversary intent.

(b) Position, Navigation, and Timing (PNT). The space-based Global Positioning System (GPS) is a satellite-based radio navigation system operated by the DOD to provide military, civil, and commercial users with precise PNT. GPS provides essential, precise, and reliable timing information, enabling forces to execute unified land operations more effectively.

(c) Space Control. Maneuver, operations support, and force sustainment operations ensuring freedom of action in space for friendly forces. When necessary, it is used to defeat adversary efforts that interfere with or attack US or allied space systems and negate adversary space capabilities in space. It includes the following functional areas:

1. Offensive Space Control (OSC)

2. Defensive Space Control (DSC)

3. Navigation Warfare (NAVWAR)

(d) Satellite Communications (SATCOM). Provides the necessary connectivity for worldwide communications and mobile forces operating over large, dispersed areas. It provides the Army with critical connectivity for tactical maneuver forces and Soldiers whose rapid movement and geographically dispersed deployments move them from direct access to landlines and line of sight communications.

(e) Satellite Operations. Maneuver, configure, operate, and sustain on-orbit assets are characterized as spacecraft and payload operations.

(f) Theater Missile Warning. Provides joint forces with theater early warning to dissuade, deter, and defeat ballistic missile attacks. Joint Tactical Ground Station (JTAGS) units provide in-theater warning by

receiving downlink data directly from space-based infrared sensors on ballistic missile launches, other events of interest, and battlespace characterization.

(g) Environmental Monitoring. Provides data on meteorological, oceanographic, and space environmental factors which might affect military operations. Space capabilities provide data for forecasts, alerts, and warnings of the space environment, which may negatively impact space assets, Space Operations, and terrestrial users.

(h) Space-based intelligence, surveillance, and reconnaissance is a joint space capability.

(2) Provide expert space analysis to support Army and JIIM partners' plans and operations.

(3) Coordinate with staffs to integrate space capabilities that enable, and support Inform and Influence Activities (IIA), IO, EW, IJSTO, and cyber activities.

(4) Be proficient in space control operations including OSC, DSC, and NAVWAR.

(5) Possess the expertise in both space systems and unified land operations required to serve in high-level positions (Army and JIIM partners) with minimal guidance and close interaction with senior-level decision-makers.

(6) Conduct force and crisis intervention planning and operations as related to space.

(7) Know space procedures and infrastructure for tasking, posting, processing, and utilizing space products and telemetry, tracking, and command of space systems.

(8) Can translate complex space concepts and systems into terms that have meaning to the warfighter and systems developer.

(9) Leverage current and future space-based technologies in non-traditional ways to solve new and emerging military issues.

(10) Use modeling, simulation, analysis, and other tools to develop and use space capabilities.

(11) Be involved with developing and integrating policy, concepts, requirements, and acquisition for space capabilities.

(12) Be capable of clearly and accurately communicating technical information and concepts.

Commanders and staff will call upon Space Operations Officers to:

(a) Write and present in-depth briefings at all levels.

(b) Educate and train others about space per the Army Space Training Strategy (ASTS).

(c) Systematically analyze problems and develop alternative solutions.

(d) Implement plans and orders.

(e) Be adept at organizing workload, assigning tasks, and mentoring civilian and military subordinates.

(f) Identify and utilize Army Space Operations members within their organization.

d. Accession into Space Operations Officer. The Space Operations Officer community comprises a mix of officers from all branches and other functional areas. This wide range of experience has helped make this a healthy functional area. Space Operations has a blended accession model. Four different accession programs are available.

(1) Assured Functional Area Transfer (AFAT). Enables cadets of either the United States Military Academy (USMA) or Reserve Officers' Training Corps (ROTC) with space or STEM-oriented degrees, such as a Space Science major or a Geospatial Information Sciences major and Space Science minor, to contract as Space Operations Officers. During the commissioning process, qualified officers may opt to contract with Space Operations but branch into an operational career field (e.g., IN, AR, FA, etc.). Cadets cannot branch into, Aviation, Cyber, EOD, or Medical Service due to Active-Duty Service Obligation (ADSO) requirements. Officers will transfer into Space Operations after achieving four years of service and selection for promotion to captain from a basic branch. Officers selected for AFAT will complete all necessary steps to secure a Top-Secret Security Clearance/Sensitive Compartment Information (TS/SCI) security clearance before accession into Space Operations.

(2) Voluntary Transfer Incentive Program (VTIP). Most officers assess to Space Operations using the VTIP process. Officers who have gained experience in their basic branch but would like to change career paths into the Space Operations Functional Area can participate in VTIP. The Space Operations VTIP panel considers the following:

(a) Proven performance. The best indicator of success for this functional area is previous performance.

(b) Demonstrated technical knowledge. Although a technical degree is not a requirement, the job is technical. Therefore, officers need to clearly and accurately communicate technical information and concepts. This is a highly educated specialty; over seventy percent of Space Operations field grade officers have an advanced degree.

(c) Space-related training or other related experience. Numerous online and resident courses are available. Also, the Army offers SI 3Y (Space Cadre) for those that qualify.

(d) Security clearance requirements. Officers must obtain and maintain a TS/SCI security clearance. Due to the time requirements to gain this clearance, officers that do not have a TS/SCI clearance should submit their request before VTIP.

(e) Captains Career Course completion. The Army will likely send the officers to a combat arms, fires, aviation, or military intelligence course if not complete.

(f) Basic branch and functional area strength. The current VTIP MILPER will identify which basic branches and functional areas can release and receive officers. If determined, a MILPER message will direct applicable exceptions to policy.

(g) An officer cannot assess into Army Astronaut; a NASA Selection Board selects these officers.

(3) Talent Based Career Alignment (TBCA). Uses an officer's talent profile to identify, recruit, and acquire talent using the officer's strengths, abilities, and behaviors. The Captains Career Course (CCC) facilitates TBCA by introducing career coaches.

(4) Direct Commissioning. The Department of the Army authorizes the direct appointment of officers in all branches and functional areas to acquire the necessary knowledge, skills, and behaviors (KSBs) to align officer talent in accordance with the Secretary of the Army's guidance.

e. Core Competency. The Army Space Operations goal is to provide an array of opportunities in assignments, education, and experience to develop a well-rounded officer at each grade and throughout the officer's career. This approach intends to expand the officer's skills, broaden their experience base and prepare them for higher levels of responsibility. Core competencies for Space Operations Officers at each grade are as follows:

(1) *Captains.*

(a) Exercise initiative and effective leadership of assigned personnel.

(b) Demonstrate effectiveness and competency in assigned space responsibilities.

(c) Manage employment of assigned capabilities and equipment.

(d) Understand space capabilities and how they empower military operations.

(e) Effectively communicate and contribute to the MDMP and JPP.

(f) Familiarity with the Planning, Programming, Budgeting and Execution System (PPBES), requirements development, and acquisition fundamentals.

(g) Train staff and subordinate units on space capabilities and contested space operational environments.

(2) *Majors.*

(a) Demonstrate effective organizational leadership in a space Key Developmental (KD) position and a high potential for senior leadership.

(b) Demonstrate understanding and application of capabilities across multiple space mission areas.

(c) Effectively advise the supported commander on all aspects of Space Operations.

(d) Effectively plan, integrate, and ensure proper employment of space capabilities in military operations.

(e) Lead and support the MDMP and JPP planning effort.

(f) Demonstrate understanding of PPBES, requirements development, and acquisition processes.

(g) Train staff and subordinate units on space capabilities and contested space operational environments.

(3) *Lieutenant Colonels.*

(a) Demonstrate high performance in space KD positions and a high potential for senior leadership.

(b) Demonstrate a breadth of experience and competency across multiple space mission areas.

(c) Operate effectively at the strategic, operational, and tactical levels.

(d) Effectively integrate and ensure innovative employment of current and emerging space capabilities in JIIM, and multiple operating environments.

(e) Lead and support the MDMP and JPP planning effort.

(f) Effectively advocate and influence service and joint policy, budget, requirements, and acquisition processes.

(g) Train staff and subordinate units on space capabilities and contested space operational environments.

(4) *Colonels.*

- (a) Highly functioning senior leader providing effective strategic direction.
- (b) Demonstrate a breadth of experience and competence in the operating and generating force with appropriate joint experience.
- (c) Advise senior leaders at strategic and operational levels.
- (d) Set the conditions to optimize the employment of current capabilities and shapes the direction of future capabilities to enhance service and JIIM operations.
- (e) Assesses and orchestrates overall planning effort, allocates resources, and sets priorities for planning and operations.
- (f) Effectively shapes and guides service and joint policy, budget, requirements, and acquisition processes to achieve desired outcomes.
- (g) Train staff and subordinate units on space capabilities and contested space operational environments.

f. *Special qualifications.* All Space Operations Officers **MUST** maintain a TS/SCI security clearance.

3. Officer Development

a. *Officer Development Model.* The Officer Development Model is focused more on the quality and range of experience rather than the specific gates or assignments required to progress.

(1) Initial entry officers gain branch technical and tactical skills to develop a Warrior Ethos and important leadership experience in company grade assignments.

(2) Throughout an officer's career, the model highlights the need to gain JIIM experience and exposure.

(3) All functional area transfers are handled by AFAT, TBCA, or VTIP. This standardizes functional transfers, meets dynamic functional area/branch requirements, and empowers officers to make informed career decisions by providing flexible and viable career paths.

(4) Lifelong learning, supported by civilian and military education, provides critical opportunities to develop both joint and Army competencies.

(5) Broadening assignments, education, or experiences expand a leader's capabilities by exposing them to different organizational cultures and environments. The binning concept groups assignments into distinctive broadening opportunities (defined in number 3-4 b(2)(f)). Officers should weave through the different bins during their careers. Weaving broadens the officer by providing different experiences and perspectives. It also develops future leaders with valuable and varied skills while developing a bench of senior strategic leaders with diverse talents and perspectives for the Army. A balanced mix of assignments offers the best path to the development of strategic-level thinkers and leaders. The four bins are:

(a) *Institutional and Functional Assignments* - MTOE unit; task force; brigade and below assignments, Div/Corps/S.F. Group Space Support Element; TDA unit; USASMDC, HQDA G-3/5/7, 704th MI BDE.

(b) *Joint and Multinational Assignment* – joint staff, USEUCOM, USAFRICOM, USSOCOM, USSTRATCOM, US Cyber Command, USSPACECOM, Joint Navigational Warfare Center (JNWC), North American Aerospace Defense Command (NORAD), North Atlantic Treaty Organization (NATO).

(c) *Inter-Agency and Inter-Governmental Assignments* - Office of the Secretary of Defense (OSD), National Reconnaissance Office (NRO), Defense Information Systems Agency (DISA), Defense Intelligence Agency (DIA).

(d) *Civilian Enterprise and Academia Assignments* - Advanced Civil Schooling (ACS), Training with Industry (TWI), instructor positions at the Naval Postgraduate School (NPS), United States Military Academy (USMA), Air War College (AWC), Combined Arms Center (CAC), and Army Scholarship/Fellowship/Internship program.

(6) The Army Career Tracker (ACT) is the Army's online professional development application. Space Officers now have an online tool they can use to map their careers, assignments, and training opportunities. ACT integrates training, assignment history, and formal and informal education information from fifteen databases and systems into one interactive and easy-to-use interface. ACT does not replace Army training, education, and assignment systems and programs. Instead, it brings them together in one place, intending to make systems and programs more convenient to access and easier to use. Space Officers can monitor their career development and history, search for education and training resources,

and receive personalized career planning and goal-setting advice from leaders and mentors. It is also a tool to aid in mentorship. This tool facilitates structured mentorship and can be utilized and revised by successive mentors as an officer gains experience. Login at <https://actnow.army.mil>

(7) Army Space Knowledge Management Site (ASKMS). ASKMS is an enterprise SharePoint website on both NIPRNET and SIPRNET that provides a communication and collaboration tool for Army Space Operations members and supports Army space interests worldwide. ASKMS capabilities include classified and unclassified sites, secure access through Common Access Card authentication, document libraries, records archives, surveys, sites, and workspaces. ASPDO utilizes ASKMS for space badge and 3Y SI/ASI and S1A personnel development skill identifier processing, space education, and training, Space Operations Officer career management, and ACS or TWI programs. Users can access ASKMS through the following URLs:

NIPR: <https://army.deps.mil/army/sites/ASKMS>

SIPR: <https://intelshare.intelink.sgov.gov/sites/askms>

b. Space Operations Officer Functional Area Development. Space Operation Officers have specific requirements to ensure they are developed and well-grounded in Army and unified action partners operations. Success will depend not on the number or type of positions held but instead on the quality of duty performance in every assignment.

(1) *Initial selection.* Upon notification of selection, officers should contact the Space Operations Career Manager at US Army Human Resources Command (AHRC) to discuss assignment expectations. Officers assessing into Space Operations who have not completed the Captains Career Course will attend a combat arm, fires, aviation, or military intelligence CCC, if available. Completion of CCC is required prior to attending the Space Operations Officer Qualification Course.

(2) Space Operations Officer Qualification Course (SOOQC), Course Code: 2G-FA40. All Space Operations Officers must complete SOOQC to be qualified as an FA40. Initial Space Operations Officer assignment requires the completion of SOOQC. The Space Operations proponent will not consider officers for ACS and TWI who have not completed SOOQC. Space Operations will return Active Component officers academically released from SOOQC to their basic branch; Army National Guard and U.S. Army Reserve officers will not have the opportunity to retake SOOQC at a later date. The US Army Space and Missile Defense School teaches SOOQC up to four times per year, and students must have a reservation to attend. The schoolhouse is in Colorado Springs, CO. SOOQC focuses on the joint space capabilities: SSA, PNT, Space Control, SATCOM, Satellite Operations, Missile Warning, Environmental Monitoring, and ISR. This course provides Space Operations Officers with a foundational understanding of joint Space Operations. Graduates of SOOQC will possess the foundational knowledge required to plan, develop, and integrate space effects into tactical, operational, and strategic military operations. This integration creates graduates who can more effectively leverage space-related assets to enable the Army across all Warfighting functions down to the lowest echelon.

(3) *Initial Assignment.* HRC will assign all new Space Operations Officers to a developmental position supported by a senior Space Operations Officer mentor.

(4) *Follow-on Assignments.* Each year, there are two assignment cycles: Summer (April-September) and Winter (October-March).

(a) Each cycle will use the Assignment Interactive Module 2.0 (AIM2) Marketplace that aligns officers with jobs based on preferences. Their unique KSBs shape officer preferences. The Army Talent Alignment Process (ATAP) uses more detailed information about officers and units than the traditional officer distribution system. Human resources systems match officers to available assignments based on their preferences, unit preferences, and readiness requirements. Officers must serve in geographically different locations. Repetitive assignments in the same area, organization, or job types (Joint, SSE, etc.) do not facilitate broadening or professional development. Officers are encouraged to communicate with ASPDO or the Space Operations Career Manager for mentorship on assignments.

(b) Other considerations include Exceptional Family Member Program, Married Army Couples Program, past assignments, dwell time, length of deployments, and manner of performance. While the Space Operations Career Manager attempts to match these factors with the officer's personal preferences, a *satisfactory* result is contingent upon making realistic preference selections. The Space Operations Career Manager attempts to match talent and performance to the right job.

(c) Individual officers need to be involved in the process. The binning concepts described in number 3-3a (5), helps officers realistically manage their career; do not limit your development/broadening by

staying in any bin too long. Look for other opportunities at increasing levels of responsibility. The Army is developing leaders with a broad range of experience.

(d) To be considered functional area qualified, Space Operations officers will have completed the SOOQC and served at least 48 months in an authorized Space Operations billet.

(5) *Professional Military Education (PME)*. Officers should plan on attending the required PME TDY enroute to their next assignment when eligible.

(a) Captains Career Course (CCC). CCC prepares company-grade officers to command at the company, troop, or battery level and to serve as staff officers at battalion and brigade levels. If not complete before accession, officers are sent to a combat arms, fires, aviation, or military intelligence course if available.

(b) Intermediate Level Education (ILE). ILE is the formal education program for Majors. All Space Operations Officers will attend ILE following selection to Major but not later than the start of their 15th year of commissioned service. In addition, ILE common core is a prerequisite for JPME Phase II or Senior Service College (SSC). An HRC selection board determines the method of attendance. Space Operations Officers can be selected to participate in one of three ways:

1. 10-month residence.

2. Satellite course or,

3. Advanced distance learning plus SOOQC. Instructional institutions teach the 14-week common core course at various locations. This course plus SOOQC makes the officer ILE complete. In addition, Space Operations Officers can apply to attend the Air Force's Schriever Scholars Program.

(c) Senior Service College (SSC). SSC provides senior-level PME and leader development training. An HRC board selects senior O-5s or O-6s to attend in-residence or distance learning. Refer to associated MILPER messages for eligibility requirements.

(6) *Joint Assignments*. Space Operations are inherently Joint. Space Operations has numerous billets on the Joint Duty Assignment List (JDAL). Space Operations Majors and above will be considered for joint duty assignments worldwide. Officers assigned to a Joint billet should plan on Joint Professional Military Education Phase II (JPME II) TDY enroute. Officers assigned to JDAL positions will meet all JPME requirements. These controlled assignments usually are 36 months in length. Upon successful joint tour completion, officers assigned to these billets will receive the joint officer specialty skill identifier (3A). Upon completing a joint tour and JPME II, the Joint Policy Branch at HRC will assess the officer's file and grant the fully joint qualified ASI (3L).

(7) *Other Broadening Opportunities*.

(a) ACS/ TWI. Experienced Space Officers may be called on to serve in the research and development field for future space capabilities during assignments at such places as the military-related research labs (Naval Postgraduate School (NPS), the Capabilities Development and Integration Directorate (CDID) or, Technical Center). The nature of these assignments requires advanced academic training (post-graduate or Ph.D.) to ensure the adequate addressing of Army Space. To support the requirements of these positions, the Space Operations community leverages both the ACS and TWI programs. Space Operations Officers, who have completed at least one space operating force assignment, can attend ACS or TWI. ASPDO conducts an ACS/TWI panel to competitively select individuals to attend these programs each year. This panel develops an order-of-merit list (OML) for all individuals that apply. When allocations become available, ASPDO will work down the OML to fill all allocations. Officers who participate in these programs will serve in ASPDO designated utilization tours and incur an appropriate ADSO.

(b) Fellowships/Internships/Scholarships. Space Operations Officers must serve at least one space operating force assignment before competing for an Army-sponsored fellowship. Interested officers undergo a rigorous selection process to ensure the selection of the best-qualified officers. Upon successful completion, the officer incurs a 3-year ADSO. Officers interested in competing must meet the requirements outlined in AR 621-7. The ASPDO ASKMS site lists acceptable programs.

(c) School of Advanced Military Studies (SAMS) or other service equivalents. Space Operations officers may compete to be selected to attend SAMS at the US Army and Combined Arms Center, Fort Leavenworth, KS, or other service equivalents. Upon school completion, the officer will be assigned to a utilization assignment by the Plans Branch at HRC. An assignment may or may not be to a Space Operations billet. Officers interested in pursuing SAMS should coordinate with the Space Operations Career Manager.

(8) *Professional Development Education*.

(a) Promotion to Colonel requires the completion of the NSSI Space 300 course. Seats for this course are nominative. The ASPDO manages all Army seat allocations and an OML for this course. Although Lieutenant Colonels have priority in the course, Majors and senior Captains may be required to attend based on their assignment.

(b) ASPDO highly recommends the Senior Space Leader Seminar (SSLS) for senior Lieutenant Colonels and Colonels going into key strategic level assignments. This course is nominative. ASPDO manages the Space Operations Officer roster for this course.

(9) Space Operations CSL Positions. The current approved CSL command positions for O6 include 1st Space Brigade Command and the USAG Kwajalein Garrison. Approved CSL command positions for O-5 include 1st Space Battalion, O1G Multi-Domain Effects Detachment (MDED), O1G Multi-Domain Effects Battalion (MDEB).

(10) *Self Development*. Officers must commit to a lifetime of professional and personal growth to stay at the cutting edge of the space profession. All Space Operations Officers are encouraged to pursue educational opportunities as part of life-long learning and enhance their professional competence and personal development, including self-structured readings and studying current and emerging space capabilities. All officers are encouraged to pursue graduate-level degrees in space-related or technical fields to improve performance and contributions to the area of space-based operations. Officers should take advantage of the Army's multi-source assessment and feedback or 360-degree assessment tool. The design of this tool raises self-awareness and better shapes the officers' self-development efforts.

c. Space Operations Career Life Cycle.

(1) Even though there are no lieutenant positions within Space Operations, lieutenants that are part of the AFAT program will become Space Operations Officers after four years in their basic branch. ASPDO encourages AFAT lieutenants to take advantage of any training opportunities: Army Space Cadre Basic Course, NSSI's introduction to Space Distance Learning course, and 319th Combat Training Squadrons Distance learning course Orbital Mechanics and Introduction to Space Electronic Warfare.

(2) Lieutenant and Captain Development (still in Basic Branch). There are no lieutenant positions within Space Operations, and officers at this rank cannot transfer into the FA until in a promotable status. Therefore, those officers looking to transfer as captains should focus on job performance and gaining experience during basic branch assignments as they serve as the foundation for future effectiveness. For those officers looking to transfer, the following training opportunities are open to all: ASCBC and the NSSI (<https://www2.peterson.af.mil/nssi/>) Introduction to Space Course Distance Learning course. Additionally, obtaining an advanced degree in a space-related or technical field is beneficial.

(3) Captain Development.

(a) Education: Captains Career Course and SOOQC.

(b) Key Developmental Assignments: To be functional area qualified, Space Operations officers must complete SOOQC and serve in a captain-level key developmental assignment for 24 months. The following billets are required to be functional area qualified: JNWC Exercise and Training Officer, NRO Space Integration Officer, Fires Brigade Space Operations Officer, NSDC positions, SF Group Space Operations Officer, O-3 Level Company Command, MDEB Assistant IJSTO Chief, Deputy Space Control Planning Teams (SCPT), Battlefield Coordination Detachment (BCD), Space Control Platoon Leader (name change pending), and the USASMDC DCG-O XO.

(c) Developmental and Broadening Assignments: Any O3 Space Operations assignment, ACS/TWI followed by Space-related utilization tour, fellowship/internships, O1A assignment.

(d) Self Development: Tactical Space Operations Course (TSOC), ASCBC, Special Technical Operations Planner course, Space Control Courses, any Advanced degree in a space-related field or technical discipline, Defense Acquisition University (DAU) online courses.

(e) Desired experience: A space operating force assignment and demonstrated core competencies defined in number 3-2.

(4) Major Development.

(a) Education: ILE and SOOQC

(b) Key Developmental Assignments: Division/Corps/ASCC SSE Chief, SF Group, Field Grade Command position with UCMJ Authority, HQDA G3/5/7, USASMDC G3 Chops, Space Evaluations, SCPT OIC, USASMDC Technical Center, Division IJSTO Chief, IJSTO Instructor, SSE/G31 positions (Space

planner, STO Planner, SSE Deputy), CTC Space Ops Planner, MCTP Scenario Planner, MDTF Space Control Planner, MDEB Space Team Commander, MDEB Space Control Planner, MDEB S3 (O1G), MDEB BN XO (O1G), 704th MI BDE positions, Career Manager, and if selected to filling an O-5 position.

(c) Developmental and Broadening Assignments: For any Joint duty assignment (JDAL), officers should build on their knowledge, experiences, and opportunities at increasing levels of responsibility. The binning concept defined in number 3-3a (5) defines how officers should weave through the different bins.

(d) Self Development: SAMS, JPME II, Special Technical Operations Planner course, Space 300, Advanced degree in a space-related field or technical discipline, TSOC for those selected for an SSE, the Defense Strategy Course (DL), Defense Acquisition University (DAU) online courses, Joint Firepower Course, Joint Operations Fires and Effects Course, and the Tactical Nuclear Operations Course.

(e) Desired experience: Majors should demonstrate the core competencies defined in number 3-2.

(5) Lieutenant Colonel Development.

(a) Education: SOOQC, and Space Senior Leader Seminar (SSLS).

(b) Key Billets: O-5 Level Command, O-5 Staff Deputy, Theater/Corps/Division SSE Chief positions, HQDA G3/5/7, USASMDC G3 Ch, Certification and Evaluation Branch, CAC Instructor, XO to the CDR USASMDC, and if selected to fill an O-6 position.

(c) Developmental and Broadening Assignments: Any joint duty assignment (JDAL). Consider the binning concept described in number 3-3a (5). Officers should weave through the different bins. Officers need to build on their knowledge and experiences. Look for opportunities at increasing levels of responsibility.

(d) Self Development: JPME II, Space 300, SSC, Advanced degree in a space-related field or technical discipline, TSOC for those selected for an SSE, Defense Strategy Course (dL), DAU online courses, Director for Space Forces (DS4) Course, Army Force Management School.

(e) Desired experience: Lieutenant Colonels should demonstrate the core competencies defined in number 3-2.

(6) Colonel Development.

(a) Education: SSC, SSLS.

(b) Key Billets: All O6 billets, including O1A, are designated KD.

(c) Developmental and Broadening Assignments: Any O6 Space Operations assignment, O1A assignment, Fellowships.

(d) Self Development: Post-Graduate degree in space or technical discipline, SSLS.

(e) Desired experience: Colonels should demonstrate the core competencies defined in number 3-2.

4. Army Astronauts.

a. *Purpose.* Army Astronauts are detailed to NASA to support the nation's human space flight programs in accordance with the current Memorandum of Understanding (MOU) between the DOD, the Army, the Navy, the Air Force, and NASA concerning the detailing of military personnel for service as spacecraft crew members and the MOU between NASA and the Department of the Army regarding the assignment of Army personnel to NASA, dated June 17, 1987. Army Astronauts perform space flight-related duties as directed by NASA; International Space Station (ISS) Commander, or Flight Engineer; Ground support of spacecraft crews - Capsule Communicator (CAPCOM), Crew Support Astronaut, Kennedy Space Center Support Astronaut, or other technical jobs assigned by the astronaut office.

b. *Unique knowledge and skills.* Astronauts are well-versed and trained in all aspects of human space exploration and development in accordance with requirements specified by NASA. They must:

(1) Possess detailed knowledge of spacecraft systems, operational characteristics, mission requirements, and objectives.

(2) Possess detailed knowledge of supporting systems and equipment for each experiment on their assigned missions.

(3) Be proficient in on-orbit operations such as extravehicular activity, robotic operations, experiment operations, and onboard maintenance.

(4) Have a functional understanding of orbital mechanics, mathematics, and physics, as well as an aptitude for engineering and communications.

(5) Understand, acquire and apply the complex technical skills specified and required by NASA.

c. *Eligibility.* NASA selects Astronaut Candidates on an as-needed basis. Officers cannot access into Army Astronaut. Additionally, being a Space Operations Officer is not a prerequisite to being an Army Astronaut. Eligibility requirements do change from board to board. For the most up-to-date criteria, refer to the NASA website at <http://www.nasajobs.nasa.gov/astronauts/default.htm>

d. *Selection.* NASA selects Astronaut Candidates on an as-needed basis and typically holds boards every 2-5 years. NASA selects astronauts from a diverse pool of applicants with a wide variety of backgrounds. Only a few are chosen from the thousands of applications for the intensive Astronaut Candidate training program. Including the *Original Seven*, only 350 astronauts have been selected to date.

(1) Process begins when NASA notifies ASPDO of the need for a board. ASPDO confirms the selection process, dates/milestones, and eligibility requirements. ASPDO will draft the MILPER and ALARACT messages and coordinate their release detailing the application procedures. The NASA website (<http://www.nasajobs.nasa.gov/astronauts/default.htm>) and the-ASKMS site (<https://army.deps.mil/army/sites/ASKMS/SitePages/Home.aspx>) contain all the information regarding the process.

(2) Once the application deadline passes, the Army Astronaut Candidate Screening Board convenes to review all Army applicants. The screening board forwards all qualified applicants to the NASA board.

(3) NASA may request additional information from applicants and contract supervisors and references listed on applications following the preliminary screening of applications. The board can request that applicants considered as finalists for interviews obtain a NASA Class II space physical.

(4) A week-long process of personal interviews, medical screening, and orientation will be required for both civilian and military applicants under final consideration. Before selection, an applicant will undergo further interviews and a complete medical. Upon final selections, NASA will notify all applicants of the outcome. In addition, NASA will conduct thorough background investigations on those selected.

(5) Upon selection by NASA, Army Astronaut Candidates are assigned to NASA Johnson Space Center (JSC) in Houston, Texas, per the DoD and Army MOU with NASA. Astronaut Candidates complete 18-24 months of technical NASA-specified training and education. After completing the Candidate Course of Instruction, they are automatically functionally designated Army Astronauts and are eligible for space mission assignments. As astronauts, they will perform duties assigned by the Chief, Astronaut Office, and NASA JSC. Duties will include flight assignments, training, and collateral technical assignments. Although most astronaut candidates will enter the program at the grade of Major or Lieutenant Colonel, NASA's selection process is irrespective of military rank. Levels of responsibility in assignments generally increase with space flight experience and demonstrated performance.

e. *Training.*

(1) Astronaut Candidates undergo a training and evaluation period lasting approximately two years. During this time, they will participate in the basic Astronaut Candidate training program, designated to develop the knowledge and skills required for formal mission training upon selection for a flight. Astronaut Candidates (with jet flight piloting backgrounds) will maintain proficiency in NASA aircraft during their candidate period.

(2) Applicants should be aware that selection as an Astronaut Candidate does not ensure selection as an astronaut. Final selection as an astronaut will depend upon satisfactory completion of the training and evaluation period. Graduating from the Astronaut Candidate Program will require completing ISS systems training, extravehicular activity skills training, robotics skills training, Russian language training, and aircraft flight readiness training.

(3) Optional training could include attendance at SOOQC or Space 300.

5. WO Development

There are currently no Warrant Officers assigned to Space Operations.

6. Reserve Component Officers

a. *General career development.* Reserve Component (RC.) Space Operations Officers serve in the same or similar roles as their Active Component (AC) counterparts. The development objectives, educational

requirements, and training qualifications for the RC Space Operations Officer parallel those planned for their AC counterparts. Junior officers must develop a strong foundation through assignments in their basic branches before specializing in Space Operations. They may also establish credentials relevant to Space Operations in their civilian careers and keep their career managers apprised of specific competencies with potential application to their future as Army Space Professionals. The quality and quantity of training and assignment opportunities that RC Space Officers receive contribute significantly to their operational effectiveness.

b. Functional Area development opportunities. RC officers should strive for Space Operations assignments that yield the same developmental opportunities as their AC counterparts, even though geographical considerations may limit them. The Citizen-Soldier's dual status role presents a unique challenge when following the AC development program. To meet professional development objectives, RC Space Operations Officers are encouraged to seek Space Operations positions among the United States Army Reserve (USAR) Troop Program Units (TPUs), the Individual Ready Reserve (IRR), the Individual Mobilization Augmentee (IMA), IRR-Augmentee, the Army Joint Reserve Element (ARE), Active Guard Reserve (AGR) programs, and the Army National Guard (ARNG).

c. Intent. The intent is to provide as many officers as possible with the opportunity to serve with troops in Space Operations leadership and staff positions. The USAR measures the success of an RC officer through the officer's breadth of experience, duty performance, and completion of specific Space Operations requirements. The RC will attempt to assign officers to a Space Operations or a space-related branch position. Unlike their AC counterparts, geographic constraints may limit the ability of RC officers to remain in Space Operations positions throughout their careers. Each officer must make assignment decisions based upon the level of hardship they can endure due to geographic constraints such as travel expenses, driving distances, and training availability. If a successive assignment to a Space Operations position is not feasible, the officer should seek challenging positions in their basic branch or related functional areas.

d. Functional Area Qualifications. RC Space Operations Officers are considered functional area qualified upon completion of SOOQC. Upon graduation from SOOQC, ARNG service members will coordinate with their state OPM office IOT validate with ARNG and SMDC to recognize the service member as a fully qualified RC Space Operations Officer.

e. RC Space Officer Career Life Cycle

(1) Lieutenant Development.

Lieutenant and Captain Development (still in basic branch). There are no lieutenant positions within Space Operations, and officers at this rank cannot transfer into the FA until in a promotable status. Those officers looking to transfer as Captains should focus on job performance and gaining experience during basic branch assignments as they serve as the foundation for future effectiveness.

(2) Captain Development.

(a) Education: CCC, SOOQC, Special Technical Operations Planner course, Space Control course, TSOC, ASCBC.

(b) Key Developmental Assignments: USAR Detachment Space Operations Officer (SOO), ARNG Division Space Support Element (SSE) SOO, ARNG Field Artillery Brigade SOO, USAR/ARNG ARSST Assistant Team Leader, any Company Command, 2nd Space Battalion HHC Commander.

(c) Developmental and Broadening Assignments: Any O3 Space Operations assignment, any basic branch, 01A assignment, related functional area, or 02A Combat Arms Branch Immaterial assignment.

(d) Self Development: Advanced degree in the space-related field or technical discipline.

(e) Desired experience: A space operating force assignment and demonstrated core competencies defined in paragraph 2. Complete an active-duty CONUS tour or mobilization in a Space Operations or Space Operations-related position.

(3) Major Development.

(a) Education: ILE, ASCBC, SOOQC, SAMS, RC JPME II, Special Technical Operations Planner course, Space 300, TSOC.

(b) Key Developmental Assignments: Company/Detachment Command within 2nd Space Battalion or 117th Space Battalion (COARNG); 1st Space Brigade S3 Operations Officer (AGR), 2nd Space Battalion

XO/S2/S3, USSTRATCOM Army Reserve Element Joint Assessment Officer, 117th Space Battalion Executive Officer, 117th Space Battalion S2/3, USAR/ARNG ARSST Team Leader and ARNG Division SSE position.

(c) Developmental and Broadening Assignments: Any O4 Space Operations assignment or any Basic Branch, 01A Branch Immaterial, or 02A Combat Arms Branch Immaterial assignment. Officers should build on their knowledge, experiences, and opportunities at increasing levels of responsibility.

(d) Self Development: Advanced degree in a space-related field or technical discipline, the Defense Strategy Course (dL), Defense Acquisition University (DAU) online courses.

(e) Desired experience: Majors should demonstrate the core competencies defined in number 3-2. Complete an active-duty CONUS tour or mobilization in a Space Operations or Space Operations-related position.

(4) Lieutenant Colonel Development.

(a) Education: ASCBC, SOOQC, RC JPME II, Space 300, SSC, Space Senior Leader Seminar (SSLS), SSC.

(b) Key Billets: 2nd Space Battalion Commander, 117th Space Battalion Commander (COARNG), 1st Space Brigade Executive Officer (AGR), USASMDC G35 Plans Space Operations Officer (AGR), USASMDC Operations Center Chief (TPU), Sr, Space Operations Officer at DIV (SSE positions) (ARNG).

(c) Developmental and Broadening Assignments: Any O5 Space Operations assignment or any Basic Branch, 01A Branch Immaterial, or 02A Combat Arms Branch Immaterial assignment with 3Y Additional Skill Identifier. Officers need to build on their knowledge and experiences. Look for opportunities at increasing levels of responsibility.

(d) Self Development: Advanced degree in space-related field or technical discipline, Defense Strategy Course (dL), DAU online courses, Director for Space Forces (DS4) Course, Army Force Management School.

(e) Desired experience: Lieutenant Colonels should demonstrate the core competencies defined in paragraph 2. Complete an active-duty CONUS tour or mobilization and deployment in a Space Operations or Space Operations-related position.

(5) Colonel Development. There are currently no Colonel positions within RC FA 40. However, Colonels should seek out any basic branch, O1A, or 3Y coded position. Examples include, but are not limited to, the 100th Missile Defense Brigade Commander, Assistant Chief of Staff, and National Guard Advisor position at USASMDC.