

Establishment of Defense Civilian Training Corps Initial Implementation Plan



Office of the Under Secretary of Defense
for Acquisition and Sustainment
&
Office of the Under Secretary of Defense
for Personnel and Readiness

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STRATEGIC AND CONGRESSIONAL ACTION

The Under Secretary of Defense for Acquisition and Sustainment, the Honorable Ellen Lord, highlighted to Congress in March 2019 the initiative of establishing a civilian technical corps, a Science, Mathematics and Research for Transformation (SMART) Corps, as part of strengthening the technical pipeline of talent for the Department of Defense (DoD). Congress, through section 860 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), established in title 10, Chapter 113, the Defense Civilian Training Corps (DCTC). Chapter 113, section 2200g, directs the Secretary of Defense (SECDEF) establish and maintain a Defense Civilian Training Corps (DCTC) program, organized into one or more units, at any accredited civilian educational institution authorized to grant baccalaureate degrees. The purpose of the program is to establish a civilian training corps to prepare selected students for public service in Department of Defense (DoD) occupations relating to acquisition, science, engineering, or other civilian occupations determined by the Secretary of Defense, and to target critical skill gaps. Section 2200g of title 10 requires DCTC implementation in three steps. The first DCTC unit must be deployed by August 2021, five units must be deployed by August 2022, and 20 units must be deployed by 2023. Additionally, the Consolidated Appropriations Act for FY 2020 (Public Law 116-93) provided funding to implement the DCTC program. Both require plans. This plan satisfies both reporting requirements.

ALIGNMENT AND SUPPORT

The congressional direction establishing and providing funding for DCTC will strengthen the DoD civilian workforce and enable DoD's improved support of the White House's National Science and Technology Council's (NSTC) Science, Technology, Engineering and Mathematics (STEM) strategic goals and the 2018 National Defense Strategy (NDS) of increased lethality and readiness, expanded partnerships and technical and reform modernization objectives.

The NSTC strategic STEM goals includes "Preparing the STEM Workforce for the Future" through creating a diverse talent pool of Americans with strong STEM knowledge and skills prepared for the jobs of the future and essential to maintaining the national innovation base. The NDS requires that DoD cultivate talent and build a more lethal force by creating a modern, agile, information-advantaged, motivated, diverse, and highly skilled civilian workforce. To support the NDS lines of effort the DoD civilian workforce must be equipped to use and integrate new and emerging technologies, such as those associated with the Office of the Secretary of Defense for Research and Engineering (OSD (R&E)) Modernization Priorities (e.g., space, hypersonics, machine learning, artificial intelligence, 5G, microelectronics, biotechnology). Additional information on the (OSD (R&E)) Modernization Priorities is available at Attachment 1 and at <https://www.cto.mil/modernization-priorities/>. While designed to strengthen the STEM workforce pipeline, the DCTC program will promote public service and may also support targeting other Department critical skill gaps as determined by the Secretary of Defense.

INITIAL IMPLEMENTATION - DESIGN

The DCTC design will leverage the significant experience the DoD has attracting and preparing top talent for highly technical careers in service to our nation as both military and civilian members of the Department. The Senior Reserve Officers' Training Corps (SROTC) provides tuition, stipend, allowances, and training in exchange for service as a commissioned officer. Similarly, the Science, Mathematics and Research for Transformation Scholarship-for-Service (SMART) program provides tuition, stipends, allowances, health insurance, and training through summer internships in exchange for a commitment as civil servant in the Department.

The DCTC will leverage the SMART construct and existing policy and features of the military SROTC programs. Just as SROTC has a military science curriculum, DCTC will have an undergraduate curriculum centered on public service in the DoD and designed to align the student's academic courses of study with a DCTC curriculum providing opportunity for exposure emerging technologies and opportunity to apply STEM knowledge to current technical challenges facing the DoD. The DCTC will employ internships alongside a robust slate of projects as well as opportunities fostering innovation and competition across DCTC units in the program.

As a scholarship-based program providing a direct path to a STEM and public service career, DCTC will draw from a diverse population and be a natural educational capstone to nation-wide kindergarten through grade 12 (K-12) STEM programs. With a strong corps framework, DCTC will stand apart from other scholarship programs, inspiring a diverse and talented applicant pool. DCTC graduates will strengthen DoD's human capital environment, contributing a uniquely-trained cohort experienced in STEM and DoD technical challenges, and growing the DCTC model into a prestigious pipeline for STEM and other critical DoD needs.

INITIAL IMPLEMENTATION – SECTION 2200h PROGRAM ELEMENTS

The DCTC program design approach will leverage program features of the military SROTC and SMART programs. Department of Defense Instruction (DoDI) 1215.08, "Senior Reserve Officers' Training Corps Programs", establishes policy and procedures for the program, to include establishment and maintenance of units. DCTC planning will follow the DoDI 1215.08 tenet that decisions regarding the establishment, operation, maintenance, and assessment of ROTC units be based on efficient allocation of limited resources to meet specific needs. In the case of DCTC, these are the STEM needs of DoD. Additionally, DCTC planning includes leveraging, where applicable, the SMART program as described in Federal Register Notice (FRN) 84, Number 25, Wednesday, February 6, 2019. Chapter 113, section 2200h, requires that the Secretary of Defense determine the following initial planning elements of the program:

- (1) A methodology to identify and target critical skills gaps in Department of Defense occupations relating to acquisition, science, engineering, or other civilian occupations determined by the Secretary of Defense.

Initial Plan: DoD will use the DoD Modernization Priorities to inform identification and prioritization of critical STEM skill gaps, in addition to other STEM needs. The Modernization Priorities will inform the DCTC program design and content, including program curriculum, to engage students through hands-on application of application of

STEM and skills-based learning to in-context DoD technical challenges and student projects.

- (2) A mechanism to track and report the success of the program in eliminating any critical skills gaps identified under paragraph (1).

Initial Plan: DoD will track/report on DCTC graduates by STEM degree and will track alignment of DCTC curriculum and student projects to DoD Modernization Priorities.

- (3) Criteria for an accredited civilian educational institution to participate in the program.

Initial Plan: DoD will consider availability of STEM courses/degrees and other offerings in fields strongly associated with DoD Modernization Priorities; availability of STEM courses/Degrees, to include the 21 SMART program-funded disciplines; availability of student opportunities to apply STEM skills; geographical proximity to DoD labs and acquisition and/or other organizations; existing partnerships with DoD labs and acquisition organizations; College/University support of ROTC students, infrastructure, resource and program needs; long term supportive partnering on DoD programs, to include ROTC programs; other self-identified college/university strengths; and willingness to establish partnership through resulting contract similar to SROTC contracts with universities/colleges.

- (4) The eligibility of a student to become a member of the program.

Initial Plan: DoD will maximize consistency of DCTC with the SMART Program competitive application process and criteria (Federal Register Notice (FRN) 84, Number 25, Wednesday, February 6, 2019). Eligible persons for DCTC must:

- a) be a U.S. citizen at the time of application;
 - b) be 18 years or older at the time of entry into the program, (17 years with parental/guardian permission);
 - c) be willing to participate in summer internships at DoD laboratories or other DoD organizations;
 - d) accept post-graduation employment with DoD;
 - e) pursue an undergraduate degree in the SMART or DCTC program disciplines and remain in good standing with the DCTC host college/university with a minimum Grade Point Average of 3.0 on a 4.0 scale and; and
 - f) be eligible to obtain and maintain a secret level security clearance.
- (5) Criteria required for a member of the program to receive financial assistance from the Department of Defense.

Initial Plan: To the extent practical, DCTC requirements will be consistent with the SMART Education Program's financial assistance requirements.

- (6) The term of service as an employee of the Department of Defense required for a member of the program to receive such financial assistance.

Initial Plan: Terms of service will align with the requirements of the SROTC program. For each academic year a DCTC student receives financial assistance, the student will be required to commit to two years of civilian employment with the DoD. DCTC members will enter into this obligation by means of a service agreement executed prior to entering the program. DCTC members who enter the program after the start of an academic year will incur a pro-rated service obligation proportionate to the portion of tuition funded by the program for that year.

- (7) Criteria required for a member of the program to be released from a term of service.

Initial Plan: Release criteria will align, as appropriate, to SROTC program criteria in 10 U.S.C. and to SMART program criteria elements of 10 U.S.C. section 2192a.

- (8) The method by which a successful graduate of the program may gain immediate employment in the Department of Defense.

Initial Plan: The Department will utilize its non-competitive direct hire authorities, to include the Department's Post-Secondary Students and Recent Graduate authority granted under section 1106 of FY 2017 NDAA, to appoint graduates into vacant civilian positions.

- (9) Resources required for implementation of the program.

Initial Plan: Resources will be used to plan and develop the program and curriculum, establish agreements and fund tenant costs at academic institutions, fund operational costs of centralized and unit staffing and support, and to fund the student costs of the DCTC program (e.g., tuition, room and board, stipends, internships, etc.).

DCTC program management will leverage infrastructure and other resources offered by prospective academic institutions and other partners, to include SROTC, SMART and other related programs. However, while there will be some opportunities in partnering with SROTC units, every effort will be made to ensure that the partnering will only strengthen and not diminish the mission effectiveness of the SROTC programs which are critical to the military officer pipeline. DCTC is not intended to compete with for SROTC talent but to bolster the pipeline of great talent into DoD. DCTC will provide an avenue for talented individuals who are not able to qualify or become unqualified for the military (e.g., for medical reasons), who represent the nation's diverse and great technical and other critical skills talent that desire to contribute through public service. Ideally, the investment in the DCTC program may be able to serve as a baseline program benefitting and making possible other related STEM (e.g., artificial intelligence, cyber, software) and other critical skill programs and initiatives. It is critical that the planning include not only up front resources to thoroughly plan and implement, but also to sustain a program agile and robust in curriculum that stays relevant to applying emerging technologies and innovating to solve DoD technical challenges as part of preparing our next generation workforce to continuously achieve overmatch.

The cost estimate is based on the 10 U.S.C. 2200j requirement to deploy the program at one institution by August 1, 2021; five institutions by August 1, 2022; and twenty institutions by August 1, 2023; and with no fewer than 400 members enrolled by August 1, 2023. Members enrolled would ramp up from 10 in FY 2021, 80 in FY 2022, 420 in FY 2023, and then, assuming a steady state of 80 total students per unit (20 in each of a four-year program) and 20 units, a final steady state of 1,600 students in the program and graduates into the DoD STEM pipeline.

DCTC Program Cost Est (\$M)	FY21	FY22	FY23	FY24	FY25	FY26
Total	\$ 4.18	\$ 13.05	\$ 53.94	\$ 77.14	\$ 99.76	\$ 118.90

INITIAL IMPLEMENTATION – EXECUTION/SCHEDULE

DoD planning is co-led by the Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD(A&S)) and the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD(P&R)). Since January 2020, OUSD(A&S) and OUSD(P&R) have benchmarked the existing SROTC and SMART programs, to include policies, processes, and practices. Others engaged and consulted in the planning include OUSD(R&E), the Military Department Headquarters ROTC representatives, OUSD(P&R) Military Accessions, the Defense Acquisition University (DAU), Chief Information Officer (CIO), Office of the Director National Intelligence (ODNI), and National Securities Innovation Network (NSIN). Figure 2 provides the implementation efforts and schedule for deploying the first unit by August 1, 2021. The second plan supporting the expansion plan for implementing five units by August 1, 2022 will be provided to Congress by December 31, 2020.

DCTC Implementation Planning Schedule	2020							2021							
	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Joint DoD DCTC Implementation		ONGOING													
1 Working Group (w/MilDeps)		ONGOING													
2 Program requirements		ONGOING													
3 Program design		ONGOING													
4 Program support and resourcing		ONGOING													
5 Policy development		ONGOING													
6 Information Requirements/Approvals		ONGOING							X						
7 Support systems/web		ONGOING													
Strategic Communications		ONGOING													
8 Internal/External		ONGOING													
9 Curriculum development			ONGOING					X							
10 Program metrics		ONGOING													
11 Program operations		ONGOING													
12 Human Resources planning		ONGOING													
13 Pilot Unit Implementation planning		ONGOING													
14 Federal Register Notice release #1 – Call for Volunteer Pilot College/University Participant(s) for Pilot/Aug 2021 and August 2022 (issue FRN October 2020)						X									
15 University participant selection(s)								X							
2021 Pilot College/University(s) engagement with resulting contract and curriculum agreement											X				
16 Human Resources support/staffing							X								
18 Comms/Outreach/Student Applicants								ONGOING							
Engagement with on-site SROTC units, if applicable						X		ONGOING							
20 Deployment of unit infrastructure		ONGOING											X		
21 Communications (DoD internal and external)		ONGOING													
22 Launch of Pilot															X

Attachment 1

DoD Modernization Priorities

- **Hypersonics.** Hypersonic weapons travel five or more times the speed of sound. There is a focus on the tactical capability that these sorts of weapons bring to theater conflicts or regional conflicts. Very quick response, high speed, highly maneuverable, difficult to find and track and kill. We are modernizing our offensive and defensive force structure to both utilize and deter this capability.
- **Directed Energy.** When directed energy matures to a deployable capability, our armed forces will have the potential to defend against several types of threats with great precision and minimal collateral damage, at minimal cost per engagement. High Energy Laser (HEL) technology development and advancements in hardware are making laser weapon systems increasingly viable.
- **Fully Networked Command, Control and Communications (NC3).** Fully Networked Command, Control, and Communications technology encompasses the capability to acquire, process, and disseminate information across force elements. DoD requires a clear path to robust Command, Control, Communications, Computers, and Intelligence (C4I) with multiple redundant fully-networked “Comms”. Existing capabilities require sufficient protection against an increasing threat, in pervasiveness and effectiveness.
- **Space Offense and Defense.** The U.S. way of war, across all domains, is dependent on timely and assured space effects. Adversary capabilities and advancements require us to move quickly to a more defensible and resilient space posture. Added protection and resiliency to our current spacecraft fleet is essential.
- **Cyber.** Cyber is a unique operational domain with significant security challenges and potential leap-ahead capabilities for military operations requiring enhanced command, control and situational awareness, and autonomous operations. Ability to gain and maintain the U.S. technological edge in cyberspace in the face of rapid evolution is essential to maintaining mission readiness.
- **Artificial Intelligence (AI)/Machine Learning.** The DoD will leverage AI to enable U.S. forces to operate more effectively and efficiently. As a Department, we are evaluating which of our processes and procedures can be enabled via adoption of AI technology to meet warfighter needs and Defense priorities.
- **Nuclear Modernization.** Modernization of the nuclear triad; bombers, intercontinental ballistic missiles, and ballistic missile submarines, as well as the supporting infrastructure, including the national laboratories and the nuclear command, control, and communications (NC3) network.
- **Quantum Science and Computing.** Quantum computers pose an impending threat to secure communications. Continued U.S. dominance in quantum information science will keep us

ahead of these risks, and National Security Agency crypto-modernization will protect our most sensitive communications against a quantum computer attack. Quantum sensing will deliver new and assured precision position, navigation, and timing capabilities, keeping our forces safe in GPS-denied theaters. Quantum networks will deliver drastically enhanced sensors for finding and fixing elusive targets, and will deliver resource multiplying effects for commercially developed quantum computers to solve DoD's hardest analytical problems.

- **Microelectronics.** Microelectronics have been rapidly evolving as the demand for inexpensive and lightweight equipment has increased, and have been incorporated into countless DoD systems. Our modernization ability is jeopardized by foreign microelectronics (ME) production, actions, and investments. We must develop and deliver next generation microelectronic technologies to enhance lethality, ensure critical infrastructure, and achieve economic competitiveness.
- **Autonomy.** Autonomy extends and complements human capabilities. Advantages include persistence, size, speed, maneuverability, and reduced risk to human life. The DoD targets seamless integration of diverse unmanned/mixed team capabilities that provide flexible options for the Joint Force.
- **Biotechnology.** Biotechnology is any technological application that harnesses cellular and biomolecular processes. Most current biotech research focuses on agent detection, vaccines, and treatment. Future advances in biotechnology will improve the protection of both the general public and military personnel from biological agents, among numerous other potential applications.
- **5G.** 5G will bring about wireless, ubiquitous connectivity across humans, machines, and the Internet of Things. DoD will adapt 5G and next generation technologies to "operate through" congested and contested spectrum and in spite of compromised networks to ensure maximum readiness, lethality, and partnering among allies. 5G prototyping and experimentation will be conducted in collaboration with the defense industry and commercial suppliers to accelerate U.S. prominence in the 5G global ecosystem.