



ACQUISITION INNOVATION
RESEARCH CENTER

Research in Support of The Defense Civilian Training Corps (DCTC) Program Development, Piloting, and Instrumentation

EXECUTIVE SUMMARY AND REPORT
NOVEMBER 2024



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RESEARCH TEAM

DCTC aims to support the 2022 National Defense Strategy mission to “cultivate the workforce we need. People execute the strategy.” Likewise, it is the people of the DCTC program team that executed the strategy and realized the goals of the program. Team members represent a range of experience and expertise that collectively supported the research and development of the DCTC program, its instrumentation and piloting, and its prototyping. The knowledge the team gained will contribute to the continued development and refinement of the program, and the team structure and make-up serves as a model for replication.

Following the proceeding listing of DCTC research team members are brief bios for each.

Name	Organization	Labor Category
Dinesh Verma	Stevens Institute of Technology	Principal Investigator (PI)
Philip Anton	Stevens Institute of Technology	Co-PI
Kara Pepe	Stevens Institute of Technology	Co-PI
Victoria Cuff	Stevens Institute of Technology	DCTC Senior Program Director
C. Dawn Pulliam	Stevens Institute of Technology	<i>(former) DCTC Senior Program Manager</i>
Andrea Dame	Stevens Institute of Technology	DCTC Senior Program Manager
George Korfiatis	Stevens Institute of Technology	DCTC Curriculum Co-Lead
John Willison	Stevens Institute of Technology	DCTC Strategic Partnership Lead
Karen Thornton	Stevens Institute of Technology	DCTC Student Management and Strategic Communications Lead
Matt MacGregor	Stevens Institute of Technology	AIRC Fellow
Payuna Uday	Stevens Institute of Technology	Support Research Staff
Rosalind Dale	North Carolina A&T	Pilot PI, Lead Point of Contact
Arwin Smallwood	North Carolina A&T	Pilot Co-PI, Co-Lead Point of Contact
Dan DeLaurentis	Purdue University	Pilot PI
Ken Callahan	Purdue University	Lead, Point of Contact
Larry Head	The University of Arizona	Pilot PI & Lead Point of Contact
Laura Freeman	Virginia Tech	Pilot PI, Lead Point of Contact, and Curriculum Lead
Michael Orosz	University of Southern California	DCTC Curriculum Co-Lead

Dinesh Verma, Stevens, Principal Investigator (PI): Verma is the Executive Director of the Systems Engineering Research Center (SERC). He brings decades of experience in initiating and nurturing collaboration, and knowledge of complex system development, integration, and support.

Philip Antón, Stevens, Co-PI: Antón is the Chief Scientist of the Acquisition Innovation Research Center (AIRC). He brings knowledge of and experience in assessing the practical needs of the DoD and ensuring the transition and application of AIRC research in DoD acquisition policies, guidance, practices, reports, and workforce development.

Kara Pepe, Stevens, Co-PI: Pepe is Director of Operations for the SERC. Pepe brings vast experience in operations management, working with various government, private sector, and non-profit organizations, and leading and supporting workforce development.

Victoria Cuff, Stevens, DCTC Senior Program Director: Cuff is an AIRC research fellow supporting the Office of the Secretary of Defense with research associated with the PPBE Commission, workforce initiatives, and overall improvement of the Department's acquisition management policies and practices. Cuff brings an informed perspective and awareness of the larger defense ecosystem, plus experience in workforce development, particularly developing initiatives to upskill and reskill various workforces to match a changing technological landscape.

Andrea Dame, Stevens, DCTC Senior Program Manager: Dame brings knowledge of and experience in learning and development, coaching and mentoring, and creating transformative learning experiences.

George Korfiatis, Stevens, DCTC Curriculum Co-Lead: Korfiatis is currently the McLean Chair Professor of Environmental Engineering at the Department of Civil, Environmental and Ocean Engineering, Stevens Institute of Technology. He brings knowledge of and high-level experience in managing departments and units to achieve enterprise-level missions and collaborating to establish policies and lead implementation of strategic initiatives.

John Willison, Stevens, DCTC Strategic Partnership Lead: Willison retired in 2022 after 36 years as an Army civilian, the last 11 years among the Senior Executive Service. He brings leadership experience in areas spanning research and development, acquisition, and sustainment and vast knowledge of strategic planning, innovation and reform, and talent management.

Karen Thornton, Stevens, DCTC Student Management and Strategic Execution Lead: Thornton is a director on the Procurement Round Table and teaches at the George Washington University Law School. She brings knowledge of procurement and national defense initiatives and experience in cross-field collaboration.

Matt MacGregor, Stevens, AIRC Fellow: MacGregor brings knowledge of and experience in acquisition reform and innovation and program management to support the DCTC integrated curriculum, immersion experiences, and student engagement.

Payuna Uday, Stevens, Support Research Staff: Uday is a Research Scientist within the SERC. She brings knowledge of resilience in large-scale complex systems and research experience focused on systems engineering and policy.

Rosalind Dale, North Carolina A&T, Pilot PI, Lead Point of Contact: Dale brings over 27 years of experience, including leadership roles at NC A&T and Illinois Extension. Since joining A&T in 2011, she has served as associate dean and Extension administrator, spearheading strategic initiatives to enhance organizational impact, funding, and brand awareness. Her career is marked by a commitment to serving limited-resource communities through developmental programs.

Arwin Smallwood, North Carolina A&T, Pilot Co-PI, Co-Lead Point of Contact: Smallwood brings leadership experience in enterprise-level strategic development including fiscal management, professional development, and outreach, in addition to course and program design and administration.

Dan DeLaurentis, Purdue, Pilot PI: DeLaurentis is the Bruce Reese Professor of Aeronautics and Astronautics and former SERC Chief Scientist. He brings leadership experience in large-scale research projects and a commitment to leveraging the synergies between DCTC and other security- and defense-focused programs at Purdue to help expand the pilot and support national security initiatives.

Ken Callahan, Purdue, Lead, Point of Contact: Callahan is the former commander of Purdue's Air Force Reserve Officer Training Corps. He brings knowledge of organizational leadership and experience in mentoring scholars, developing their teamwork and leadership skills, educating them on the DoD, and helping them appreciate the unique DoD culture and core values.

Larry Head, University of Arizona, Pilot PI & Lead Point of Contact: Head is a Professor of Systems and Industrial Engineering at the University of Arizona. He brings extensive academic and industry leadership experience and knowledge in areas including systems engineering and engineering management.

Laura Freeman, Virginia Tech, Pilot PI, Lead Point of Contact, and Curriculum Lead: Freeman is a Research Associate Professor of Statistics and the Director of the Intelligent Systems Lab at the Virginia Tech Hume Center. She brings research experience focused on cyber-physical systems, data science, artificial intelligence (AI), and machine learning to address challenges in national security. She develops test and evaluation methods focused on emerging system technology and advises and counsels the workforce in using such methods and systems.

Michael Orosz, Univ. Southern California, DCTC Curriculum Co-Lead: Orosz directs the Decision Systems Group at USC's Information Sciences Institute and is a Research Associate Professor in the Sonny Astani Department of Civil and Environmental Engineering. Orosz brings project management and leadership experience in heading large-scale research projects focused on systems engineering and acquisition and in basic and applied research and development.



ACRONYMS AND ABBREVIATIONS

ABET	Accreditation Board for Engineering and Technology
AIRC	Acquisition Innovation Research Center
API	Acquisition Policy and Innovation
DAU	Defense Acquisition University
DBB	Defense Business Board
DCTC	Defense Civilian Training Corps
DoD	Department of Defense
DoD CySP	DoD Cyber Scholarship Program
ICAD	Integrated Curriculum and Development
IDA	Institute for Defense Analysis
GenAI	generative AI
GAO	Government Accountability Office
HAT	human-AI teaming
HBCU	Historically Black College or University
HSI	Hispanic-Serving Institution
NCA&T	North Carolina Agricultural and Technical State University
NDAA	National Defense Authorization Act
NDS	National Defense Strategy
NLP	natural language processing
OSD	Office of the Secretary of Defense
OSD API	Acquisition Policy and Innovation, Office of the Secretary of Defense
OUSD(A&S)	Office of the Under Secretary of Defense for Acquisition and Sustainment
ROTC	Reserve Officers' Training Corps (ROTC)
SE	systems engineering
SERC	Systems Engineering Research Center
SLO	Student Learning Objective
SMART	Science, Mathematics, and Research for Transformation
SROTC	Senior Reserve Officer Training Corps
STEM	science, technology, engineering, and mathematics
UARC	University-Affiliated Research Center
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(R&E)	Under Secretary of Defense for Research and Engineering

ACKNOWLEDGEMENTS

The AIRC DCTC Team would like to acknowledge and thank the numerous individuals who provided essential input, guidance, and support for the DCTC Pilot and the preparation of this report.

We would first like to thank our first cohort of DCTC scholars. The 85 scholars across the four DCTC pilot universities took a leap of faith and supported the program pilot design and implementation. Without their invaluable input and feedback this pilot would only be a study.

We would like to thank the entire DCTC team, which includes our OSD API sponsors, the broader OUSD(A&S), DCTC pilot universities, and the AIRC team. This incredible group is responsible for the current program and reinforces the critical partnership across government and academia. Our DCTC Executive Director and champion in OSD API, Mr. Mark Krzysko, provided invaluable, critical, and outstanding leadership to the overall program pilot. His enthusiasm and support were essential for paving the way and enabling the achievements to date. Likewise, Mr. Garry Shafovaloff, the DoD's program manager for DCTC, provided inexhaustible dedication, support, engagement, and advice across the myriad array of DCTC details, without which DCTC would not exist today.

Critical support and encouragement came from additional OSD leadership above API, including the Deputy Secretary of Defense Kathleen Hicks, USD(A&S) Dr. William A. LaPlante, Ms. Deborah G. Rosenblum, Mr. Gary A. Ashworth, Mr. John M. Tenaglia, Ms. Mary Kathryn Robinson, and most directly Mr. David Cadman.

We also thank our DCTC pilot universities and DoD strategic partners. These institutions and organizations worked closely with the AIRC DCTC Team to ensure the program's success, creating an impactful and practical learning environment for our scholars.

The DCTC pilot universities, including their faculty, administrators, and staff, played a critical role in delivering the curriculum and shaping the scholar experience, tailoring their support to meet the unique goals of this program. Their dedication was vital in laying a strong foundation for the DCTC initiative and fostering a community for our scholars.

Our DoD strategic partners provided invaluable insights and facilitated essential connections across various branches and departments. Their partnership helped design immersive project-based internships that offered real-world experience and strategic relevance, allowing scholars to gain hands-on exposure to the challenges and objectives central to the defense mission.

The collaborative spirit across the Department of Defense — spanning CDAO, P&R, and numerous other organizations — has been instrumental in identifying and addressing the program's key challenges and opportunities. The DCTC team utilized and benefited from countless and amazing support and encouragement across the full breadth and depth of the DoD, from CDAO to P&R and organizations across the enterprise their collaboration, insights, and identification of pain points directly informed the execution of first twenty-one months of the DCTC Program Pilot.

EXECUTIVE SUMMARY

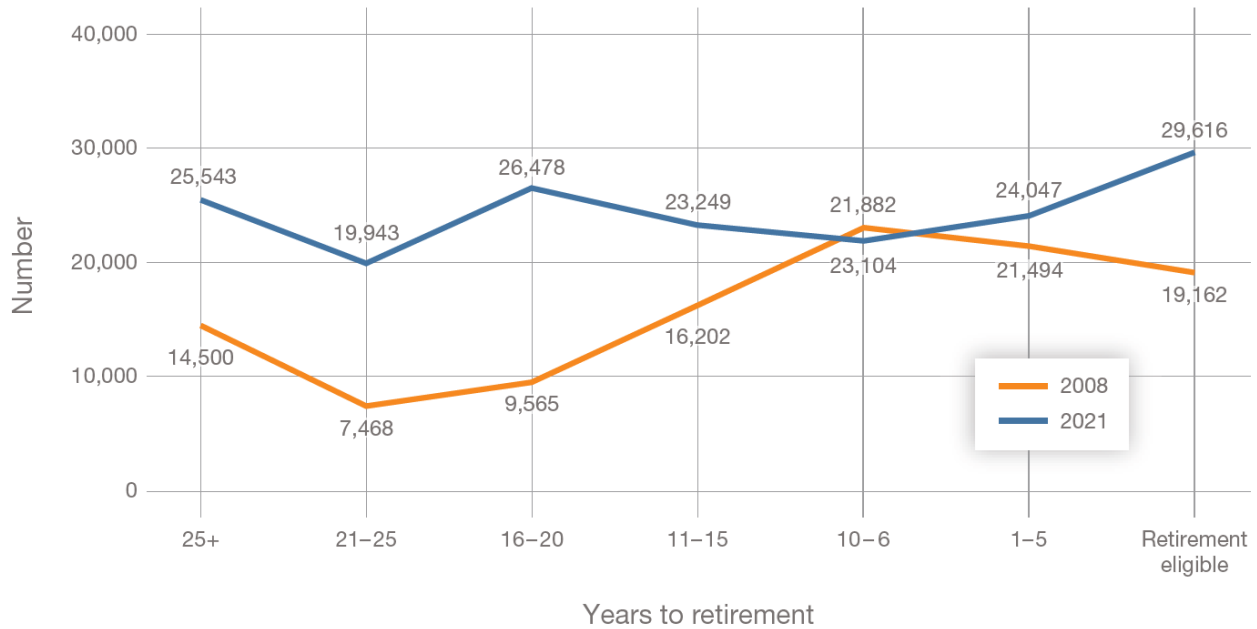
The Defense Civilian Training Corps (DCTC) partnership between the Department of Defense (DoD) and academia represents a first-of-its-kind investment to prepare and ensure the readiness of college graduates to become new civilian acquisition professionals (see dctc.mil). DCTC is distinguished by its focus on DoD-unique development and its data-driven approach that guides programming and organization decisions. The result is experiences inside and outside the classroom that instill in undergraduate student scholars the critical skills, behaviors, and character to have an immediate impact, adapt at a competitive pace, and achieve improved results for the warfighter. DCTC complements other workforce initiatives, such as ROTC (Reserve Officer Training Corps), SMART (Science Mathematics and Research for Transformation), and the DoD Cyber Service Academy, thereby strengthening the DoD talent pipeline in different ways. DCTC is developing an acquisition workforce with the critical thinking and problem-solving skills necessary to ensure the adoption of emerging technology and new practices within the DoD.

The Acquisition Policy and Innovation directorate within the Office of the Assistant Secretary of Defense for Acquisition (OSD API)—part of the Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD(A&S))—engaged the Acquisition Innovation Research Center (AIRC) to pilot DCTC. The DCTC pilot provides targeted education, development, and experiences that support the National Defense Strategy's (NDS's) commitment to streamline hiring practices, fill technology gaps, and work with institutions of higher education to build the civilian defense acquisition workforce of the future. AIRC and OSD API accelerated the DCTC Program Pilot implementation timeline initially set by Congress by one year, an action that embodied the overall agility and spirit of experimentation that distinguishes the DCTC program. The pilot spans three cohorts from the graduating classes of 2025 (Cohort '25), 2026 (Cohort '26), and 2027 (Cohort '27). Throughout the initial pilot, the DCTC program team focused on utilizing the lessons learned from each of the three cohort classes to guide continuous improvement, with Cohort '27 setting the stage for scalable models for DCTC's full-scale implementation.

DCTC goes beyond scholarship-for-service to include curricula, immersive learning experiences on campus, project-based summer internships at DoD installations, and a culture of care to instill resilience and critical DoD skills on top of students' major field courses. This integrated approach was tailored to align with the critical skills needed for the workforce of the future, providing scholars with a head start in cultivating the network, community, and support needed for personal and professional success. An array of DoD organizations served as strategic partners with DCTC, offering internships, site visits, security clearances, and mentorships that created a pathway to DoD employment upon graduation. As this final report of the program pilot's first twenty-one months shows, DCTC is building the next generation of DoD civilian leaders who will be *impactful and adaptable on Day 1, ensuring that the DoD stay ahead in The Great Power Competition*.

The 2022 National Defense Strategy (NDS) mandates achieving an enduring advantage over our adversaries. The current DoD civilian talent pipeline could be strengthened by implementing a more structured process that directly links workforce needs to a dedicated civilian pipeline to deliver a workforce prepared from Day 1 to meet present and future needs. The Department can benefit from adopting a systematic approach similar to the military's established pipeline for projecting workforce needs. DCTC serves as a civilian counterpart to the ROTC model, focusing on attracting, preparing, and equipping well-prepared new DoD civilian hires.

About 30 percent of the DoD workforce is within five years of being eligible to retire (see Figure 1). While this can contribute to a significant loss of expertise, the upside is that we are in the perfect place to increase both the numbers and capabilities of new graduates coming into the DoD acquisition workforce in the next few years. The DCTC Program is designed to proactively attract, train, and retain civil servants from college who can perform immediately upon hiring and have the leadership and workforce skills critical for their long-term success in the DoD.



SOURCE: Gates et al., 2022, p. 32.

Figure 1. DoD acquisition workforce years to retirement (2008 and 2021)

DEFINING THE PATH TO THE FUTURE FOR SCHOLARS



Figure 2. Cohort '25 Scholars with Senior Leaders and Champions at the Pentagon (July 2024)

Scholar Testimonials (see Appendix B)

"Before hearing about DCTC I didn't know how to get a job or a clearance in the DoD. I look forward to attending the DCTC course more than any other class on campus because the *DCTC class has a direct link to my very near future*. The curriculum material is exciting and meaningful, and the instructor truly cares for our well-being."

- Faith Jones, DCTC Scholar '25, Virginia Tech

"It was refreshing to *work with a career professional on an actual, ongoing problem* rather than school projects that have a smaller scope. Through this project **I gained a unique perspective on the challenges of moving the working parts of the DoD toward modernization.**"

- Owen Gee, DCTC Scholar '25, University of Arizona

"I want to work within the government and support the warfighter. The *scholarship and stipend were a huge bonus* and an important part of my decision to pursue the DCTC program. This program *helps students obtain a security clearance* and exposes them to the various opportunities that the DoD has to offer."

- Nick Canovas, DCTC Scholar '25, Purdue University

"The summer internship project isn't just about developing and presenting ideas; it's about personal growth and embracing a new work culture. It has shown me why classroom learning is crucial and what an internship should truly embody, and helped me *recognize my importance* in every project, no matter how minuscule."

- Tamara Daye, DCTC Scholar '25, North Carolina A&T

INTRODUCTION

The Acquisition Policy and Innovation directorate within the Office of the Assistant Secretary of Defense for Acquisition (OSD API)—part of the Office of the Under Secretary of Defense for Acquisition & Sustainment (OUSD(A&S))—engaged the Acquisition Innovation Research Center (AIRC) to implement a pilot of the Defense Civilian Training Corps (DCTC), a new initiative to prepare both technical and non-technical graduates for careers in the acquisition workforce at the Department of Defense (DoD). Distinguished by a data-driven approach that supports informed decisions for programming, operations, and continual refinement, the DCTC Program Pilot provides the targeted education, development, and experiences to develop a modernized, multidisciplinary talent pipeline to meet current and future complex demands on the DoD workforce.

Established in September 2020 as an applied extramural research center in academia for the DoD, AIRC aims to infuse innovation and alternative disciplines from academia into the DoD to better respond to rapidly changing threats and technological advances. By leveraging the research and expertise of faculty, researchers, and students from more than 20 collaborating universities throughout the United States, AIRC and OSD API are able to pilot and scale DCTC with a national network of expertise spanning academia, government, and industry.

The 2022 National Defense Strategy (NDS) mandates achieving enduring advantage over our adversaries. This requires a strengthened DoD talent pipeline that delivers an agile and critical-skills prepared workforce that is job-ready from Day 1 to make a difference in supporting our military. In March 2023, the Defense Business Board (DBB) emphasized that the competition for talent is intensifying and reported that 52% of U.S. companies say that building a talent pipeline is the top method for getting ahead in a “war for talent.” The DBB recommended to the Secretary of Defense that the DoD needs to improve civilian recruiting and build a talent pipeline for critical skills.

The DoD has existing scholarship-for-service programs, such as the Science Mathematics and Research for Transformation (SMART) scholarship program and DoD Cyber Service Academy (formerly known as the DoD Cyber Scholarship Program (DoD CySP)) to attract exceptional STEM (science, technology, engineering, and mathematics) civilian talent and has long relied on the Senior Reserve Officer Training Corps (SROTC) to attract and develop top talent for the military officer ranks. DCTC complements the SMART and DoD Cyber Service Academy programs by providing DoD-specific training to preparing a future DoD civilian workforce ready to contribute as part of DoD technical and non-technical multidisciplinary teams and work with partners in industry and academia to develop technology solutions and rapidly deliver military capabilities.

Congress codified the direction for DoD to establish DCTC at Title 10 Chapter 113 through the Fiscal Year (FY) 2020 National Defense Authorization Act (NDAA). In the FY 2023 NDAA, Congress directed the OUSD(A&S) to lead DCTC. Under the direction of the OUSD(A&S), AIRC and OSD API accelerated implementation of the DCTC Program Pilot and “shifted left” an entire year from the latest Congressional schedule. Shifting left (i.e., accelerating the timeline) is a distinguishing trait throughout the DCTC program, embodying its agility and spirit of experimentation. This acceleration of the timeline is accompanied by an immediate and ongoing focus on utilizing the lessons learned during and from implementation to continuously improve the program. The program pilot consists of three cohorts from the graduating classes of 2025 (Cohort ‘25), 2026 (Cohort ‘26), and 2027 (Cohort ‘27). Strategic acceleration allowed us to test and refine the program design in real-time by leveraging direct feedback received throughout each pilot phase from OUSD(A&S), scholars, universities, and DoD hiring organizations and supported alignment with stakeholder needs. This proactive approach ensured continuous improvement, positions Cohort ‘27 to set the stage for scalable models, and sets a strong foundation for future cohorts beyond the program pilot.

PROGRAM DESIGN

PROGRAM OVERVIEW

The DCTC partnership between DoD and academia represents a first-of-its-kind partnership and investment in the readiness of new civilian professionals. DCTC was established in law to strengthen the DoD talent pipeline with new civilian professionals prepared with critical skills, education, leadership, and internship development through hands-on projects, multidisciplinary teamwork experience, and a security clearance.

DCTC provides a two-year comprehensive DoD-specific development and scholarship-for-service program for select undergraduate students to earn a bachelor's degree and prepare them to be future civilian leaders within the DoD ecosystem. While in school, DCTC scholars engage in active learning in the classroom, take on immersive learning challenges to solve real-life challenges, and participate in summer project-based internships. Through an integrated curriculum and development approach, DCTC instills in scholars the critical skills, behaviors, and character to have an immediate impact, adapt at a competitive pace, and achieve improved results for the warfighter. OUSD(A&S) leveraged the expertise of AIRC and its existing network of more than 20 universities to implement the DCTC pilot.

The initial phase of the DCTC pilot spanning Cohort '25 to Cohort '27 provides an incredible opportunity to test and refine the program design across three distinct iterations. Individuals from across the scholar cohort, DoD hiring organizations, and OSD actively participate in developing a sustainable, scalable, and unique approach to civilian talent development. This iterative process ensures that the DCTC program learns from earlier implementations and remains responsive to the needs of stakeholders while continuing to build a strong foundation for future growth. The DCTC program pilot is designed to:

- Provide DCTC Scholars with hands-on, project-based summer internships with DoD entities.
- Provide DCTC Scholars the opportunity to engage a broad network of mentors across the defense acquisition community (government, military, industry, and academia).
- Provide DCTC Scholars with full academic scholarships and a monthly stipend.
- Initiate the security clearance process with the aim of achieving final clearance before summer internships start, but no later than graduation.
- Offer DCTC scholars unique insights into the defense ecosystem through curriculum, conferences, competitions, and site visits.
- Require one year of employment within the DoD upon graduation for each year of scholarship.*
- Evaluate recruiting methods and scholar attributes, the experiential learning curriculum and hands-on DoD challenge projects offered on campus, and the summer internship experience.

**Note: Cohort '25 does not have a service obligation agreement but will have a facilitated opportunity to join the DoD upon graduation. The service obligation requirement begins with Cohort '26 and remains for future cohorts.*

The DCTC initial pilot program design continues to evolve and adapt with each of the three cohorts, making its purpose even more critical.

Table 1. At-a-Glance: DCTC Why, How, and What

Why?	DoD needs a civilian workforce that is impactful from Day 1 and adaptable for the future.
How?	Provide a multidisciplinary, cohort-based pilot program to develop talent with critically needed DoD skills .
What?	DCTC is a 2-year scholarship-for-service and development program carried out through 4 partner universities and dozens of DoD partners that provide: <ul style="list-style-type: none"> • integrated development through a tailored curriculum • immersive learning experiences • project-based internships with DoD organizations

PROGRAM TIMELINE

The following timeline and accompanying descriptions illustrate the compressed schedule of the DCTC pilot program, which began one year ahead of the original start target and with less than two months between finalization of pilot university selection and the scholar applications.

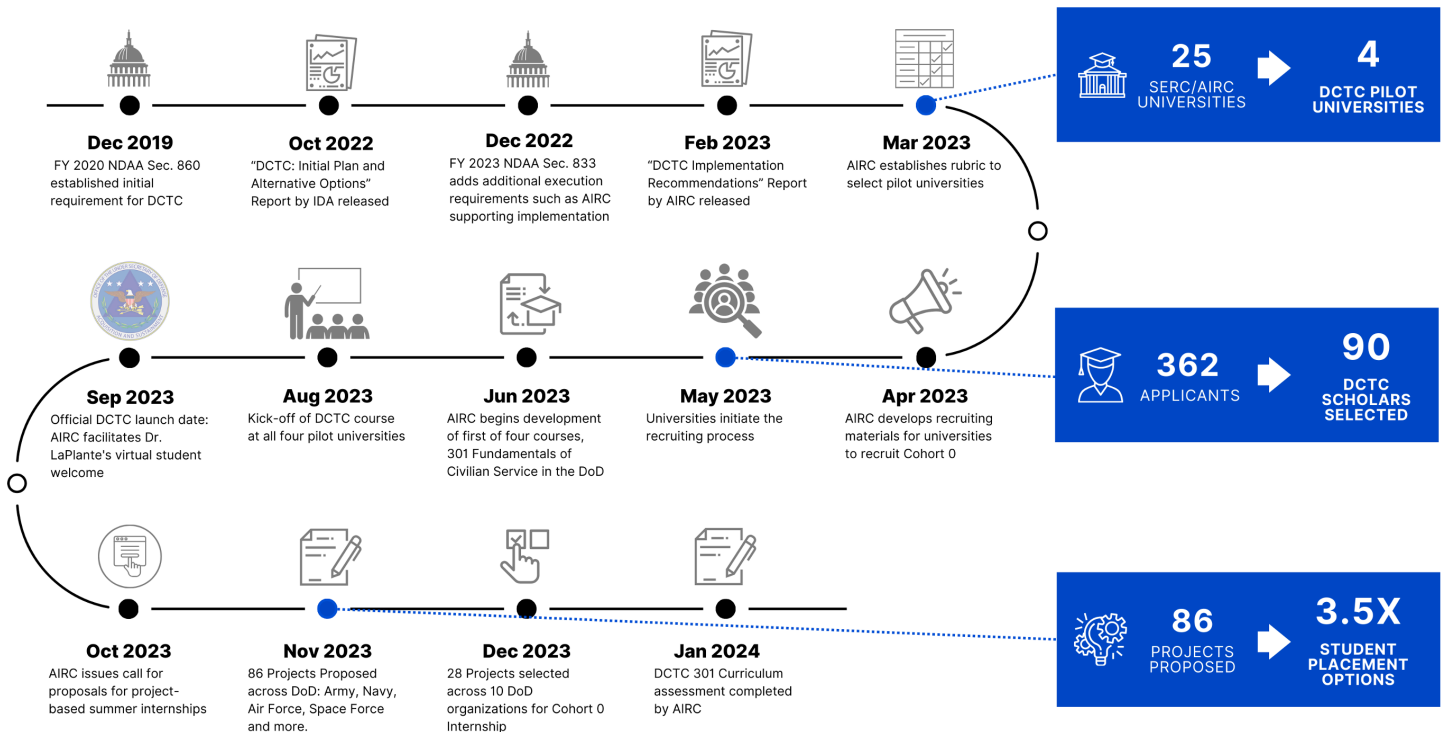


Figure 3. Initial pilot implementation timeline and achievements: from NDAA to December 2023

PILOT TIMELINE HIGHLIGHTS

February 2023 – AIRC “DCTC Implementation Recommendations” study presented structural and operational recommendations on university selection, curriculum, collaborative partnerships, and scholar recruitment and selection.

March 2023 – AIRC established a rubric to select pilot universities from among the 25 schools within the AIRC consortium. Four pilot university partners were selected.

April 2023 – AIRC developed recruiting materials for pilot universities to use in on-campus recruitment and launched the dctc.mil website.

May 2023 – Pilot universities began a three-month DCTC scholar recruiting process: 365 applications were received, and 90 scholars were selected, for Cohort '25.

June-August 2023 – AIRC created and developed DCTC curriculum to deliver to pilot universities.

August 2023 – DCTC program pilot launched with Cohort '25, comprised of 85 scholars (members of the class of 2025), at four pilot universities (listed below), each a member of the AIRC university partner network:

- North Carolina Agricultural and Technical State University (*a Historically Black College or University—HBCU*)
- Purdue University
- The University of Arizona (*a Hispanic-Serving Institution—HSI*)
- Virginia Polytechnic Institute and State University (Virginia Tech)

August 21, 2023 – First week of DCTC-301 course offering, Fundamentals of Civilian Service, at four pilot universities.

September 7, 2023 – DCTC official launch date. AIRC facilitated virtual student welcome event hosted by Hon. Dr. William LaPlante, USD(A&S).

October 2023 – AIRC called for DoD partner proposals for project-based summer internships.

November 2023 – 86 project applications received from DoD potential partner organizations.

December 2023 – AIRC selected 27 projects hosted by 10 DoD partner organizations.

January 2024 – Second semester and beginning of second DCTC-302 course offering, Exploration of the DoD Acquisition Environment, at four pilot universities. Call for Cohort '26 applications.

March 2024 – 85 Cohort '25 scholars placed at 27 projects across the services, with 80% of internship projects having teams of three or more scholars and often teaming STEM and non-STEM students to address multidisciplinary acquisition aspects.

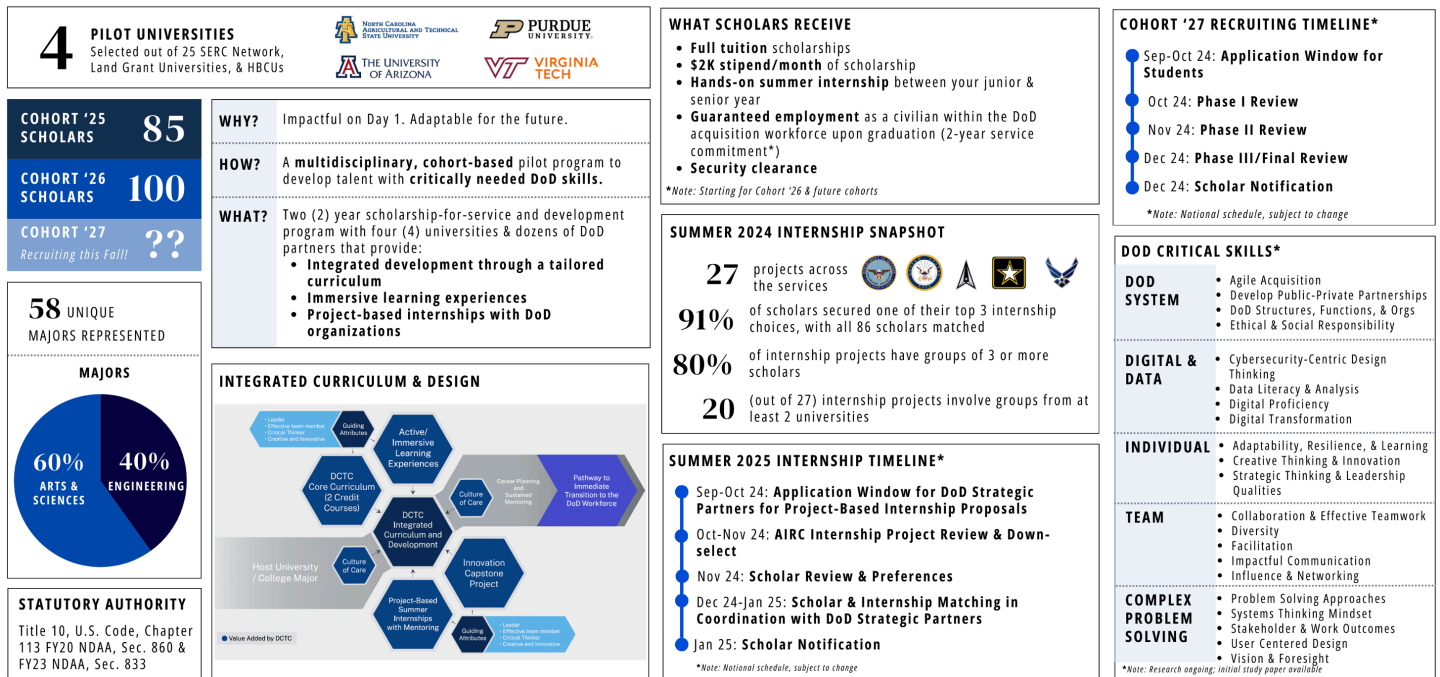
May 2024 – 100 scholars selected to Cohort '26 across four pilot universities.

June 2024 – Eight-week Summer 2024 Project-Based Internships begin.

July 2024 – Completion of Summer 2024 Project-Based Internships and Inaugural DCTC Scholar Showcase in Washington, D.C. with 300+ participants.

August 2024 – Start of second program pilot year and classes for Cohort '25, third semester DCTC-401 course offering, Overview of DoD Missions and Community Functions, for Cohort '25. First semester for Cohort '26.

September 2024 – Call for Cohort '27 applications (<https://dctcscholarapp.acqirc.org/>) and 2025 DCTC Summer Project-Based Internships (<https://dctcinternships.acqirc.org/>) Proposal windows.



as of 10-Sep-24

National Security Leaders Today and Beyond

Figure 4. DCTC placemat with data from March 2023-September 2024

DCTC: AGILITY AND SPIRIT OF EXPERIMENTATION

The following figure shows a simplified but common employee lifecycle, and highlights its linear nature. Each phase typically occurs separately from the others and in particular, development and training take place later in the lifecycle, after an employee joins an organization.

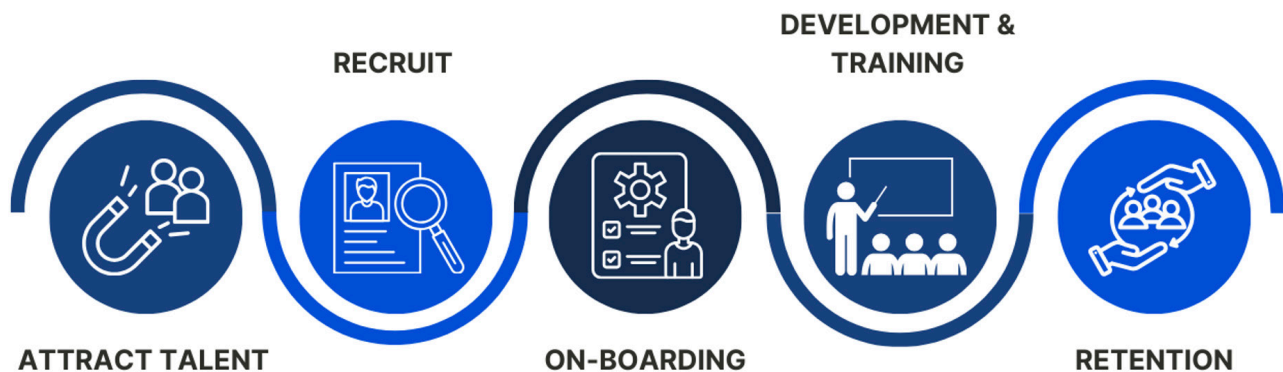


Figure 5. A typical employee lifecycle

- 1. Attract Talent:** This first phase uses various strategies to appeal to potential candidates, showcasing the organization's culture, values, and benefits.
- 2. Recruit:** The organization actively seeks out, interviews, and selects candidates for employment, focusing on individuals with the necessary skills and qualifications and who also align with the company's culture and values.
- 3. On-boarding:** This phase acquaints newly hired employees with their specific roles and responsibilities, as well as the organization's policies, procedures, and culture, ensuring employees have the information and tools needed to succeed.
- 4. Development and Training:** This phase supports the continuous growth and education of employees, offering training programs, workshops, and courses to enhance their skills, performance, and career advancement opportunities within the organization.
- 5. Retention:** This final phase focuses on keeping employees motivated, satisfied, and engaged through various strategies such as competitive compensation, benefits, recognition programs, and career development opportunities, to reduce turnover and retain top talent.

The DCTC Program Pilot illustrated the opportunity to accelerate and shift the DoD employee lifecycle. The DCTC approach enables a **shift left** of development and training by providing coursework and project-based internships during undergraduate studies that support earlier and stronger preparation of the future DoD acquisition workforce. The following figure depicts an overview of the overall DCTC Scholar Pathway to Employment process, which frames and categorizes the lessons learned that will be discussed in greater detail in the following sections.

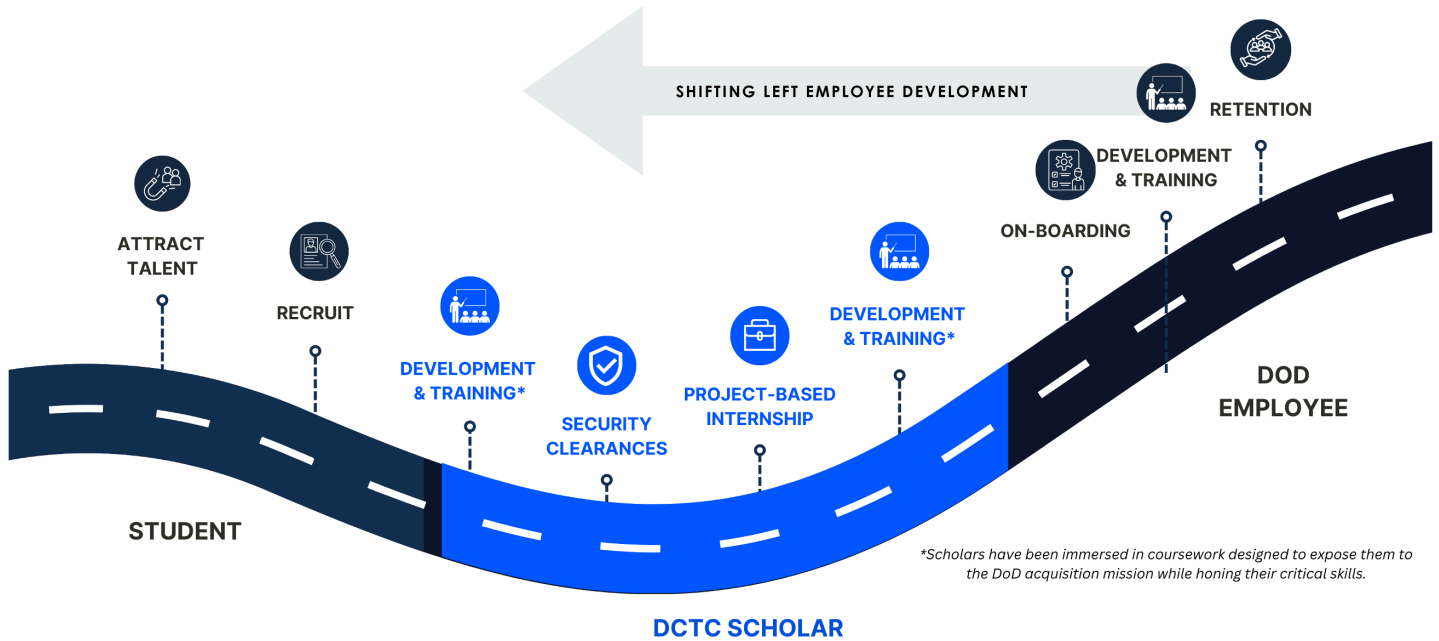


Figure 6. DCTC Scholar pathway to employment

DATA-DRIVEN ANALYSIS AND DECISIONS

IDENTIFYING AND TARGETING CRITICAL SKILLS

DCTC was established “to target critical skill gaps necessary to achieve the objectives of national defense strategies...and the nation security strategies...by preparing students selected for the [DCTC] for Department of Defense careers relating to acquisition, digital technologies, critical technologies, science, engineering, finance and other civilian occupations determined by the Secretary of Defense.”¹

To achieve data-informed decisions, AIRC undertook a multi-pronged top-down and bottom-up approach to understand these critical skills both from the perspective of the strategic and enterprise domain-specific needs of the DoD and from the perspective of employees writ large. To understand the domain-specific needs, AIRC leveraged natural language processing (NLP) techniques to analyze numerous published documents, including government, industry, and academic reports, “to identify critical skills necessary within the DoD Acquisition Workforce efficiently and accurately.” To date, over 80 studies were included in the analysis, as illustrated in the following figure.²

¹ Public Law 117-263. James M. Inhofe National Defense Authorization Act for Fiscal Year 2023. Sec. 833 Modifications to Defense Civilian Training Corps. <https://www.congress.gov/bill/117th-congress/house-bill/7776>. See also 10 U.S. Code, Sec. 2200g(b).

² Ramirez,-Marquez, Jose Emmanuel. Leveraging NLP for Skill Identification and Talent Management in the Department of Defense, 12 Jan 24. <https://dair.nps.edu/handle/123456789/5141>

AIRC ACQUISITION INNOVATION
RESEARCH CENTER **META ANALYSIS ACROSS 75-80 REPORTS**

1. Across the meta-analysis, the following themes appear with regularity:

- Hands-on training and practical exercises is critical.**
- Ability to building robust collaborations and networks**
- Ability to keep evolving skills – Learning to learn**
- Focus on Lifelong Learning and Reskilling**

AIRC ACQUISITION INNOVATION
RESEARCH CENTER **META ANALYSIS ACROSS 75-80 REPORTS**

- Leadership Skills, Adaptability, and Strategic Thinking** – communications and stakeholder engagement; Collaborative Training, Knowledge Sharing, and Cross-Capability Training; Adaptive Communication, Learning, and Skill-Capability Development
- Cognitive Skills in Cyber Space** – analysis and evaluation of cyber exploits and risks; design and risk; using encryption algorithms and security tools; cyber operations.
- Digital Tools and Transformation** – role of automation and AI in business operations and warfare; workforce enhancement and efficiency
- Data Analytics and Insights** – impact on organizational performance; decision making
- Cybersecurity and Network Design**
- Resilience and Adaptability**
 - Enhance resilience to withstand crises.
 - Adapt to changing circumstances.
 - Develop skills to cope with stress.
- Public-Private Partnerships; International Engagement**
- Communication Skills:** Oral; Written; Interpersonal
- Enhanced Technical Proficiency:** AI; Autonomy; Cyber; Space; Software; Digital Literacy in general
- Agile Procurement:** Develop skills in agile procurement processes to acquire and deploy new capabilities; Enhance capabilities to source and integrate cutting-edge solutions.
- Innovative Ecosystem:** Foster an environment that encourages innovation, experimentation, and rapid prototyping; Foster professionals who can bridge gaps between technical and strategic aspects.
- Policy and Intervention:** Develop effective policies and interventions to improve digital inclusivity and address digital skill difficulties.
- Interdisciplinary Knowledge and Skills:** Encouraging individuals to acquire knowledge and skills from multiple disciplines, fostering a holistic approach to problem-solving and innovation.
- Ethical and Social Responsibility:** Understanding the ethical implications of technology and developing a sense of responsibility towards society.

Not Cleared for Public Release

Figure 7. Excerpt from Strategic Skills and Capabilities Assessment – A Top-Down Meta Study

To understand the more general employability skills, AIRC leveraged a 7+ year effort undertaken within the broader Systems Engineering Research Center (SERC) University-Affiliated Research Center (UARC) network that focused on individual and organizational systems engineering (SE) effectiveness.³ The effort developed a distinctive approach, named HELIX,⁴ that was used by AIRC to assess current needs and existing resources and how to leverage these to meet the increasing and urgent need for a skilled DoD civilian workforce.⁵ HELIX is being incorporated into the DCTC curriculum in the second year of the program pilot, starting with the DCTC-401 course.

³ McDermott, T., Hutchison, N. and Crick, R. (2021), The Evolution of HELIX: A Competency Model for Complex Problem Solving. INCOSE International Symposium, 31: 907-925. <https://doi.org/10.1002/j.2334-5837.2021.00877.x>

⁴ <https://helix-se.org/>

⁵ Hutchison, N. and McDermott, T. (2022), Is Systems Engineering Effectiveness the Heart of Today's Employability Skills?. INSIGHT, 25: 11-16. <https://doi.org/10.1002/inst.12393>



- Originally Funded by OSD
- 7-year study on individual and organizational SE effectiveness



HELIX^{SE} (FOR SYSTEMS ENGINEERS)

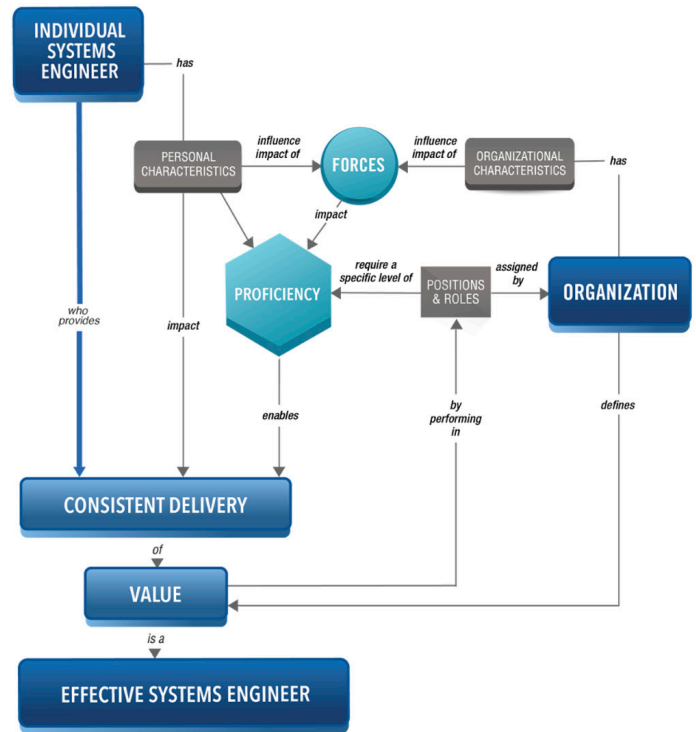
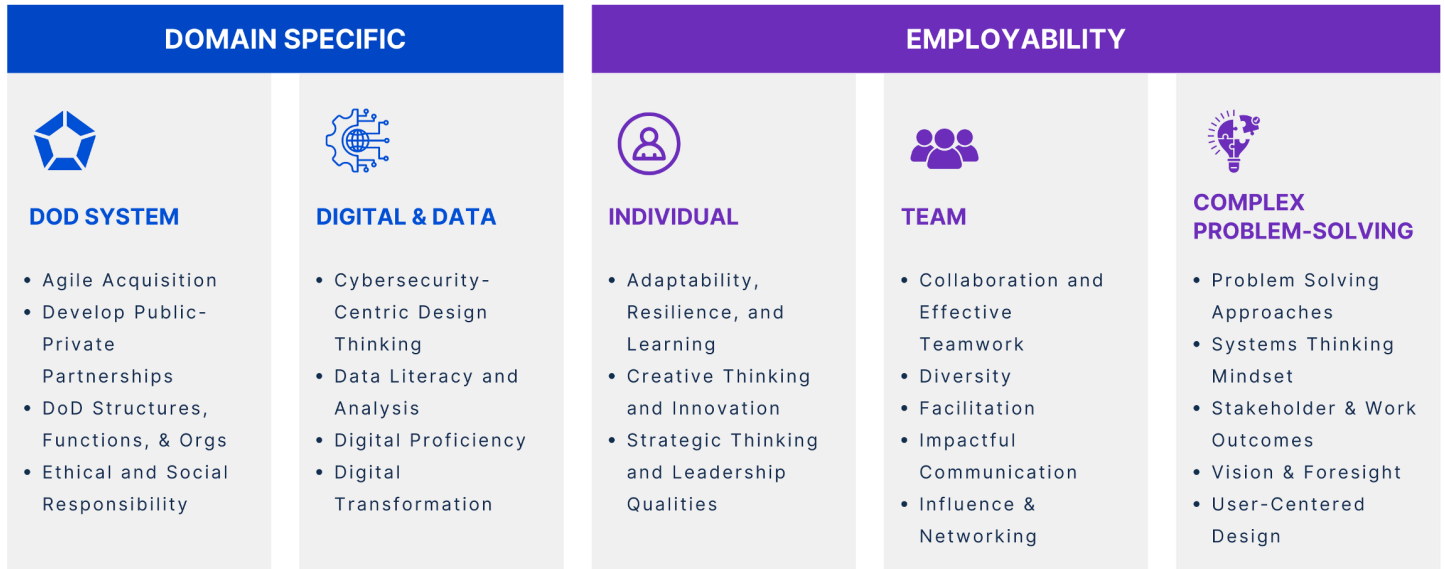


Figure 8. Overview of HELIX^{SE}

The DCTC program combined research undertaken within the broader SERC UARC network that focused on individual and organizational systems engineering (SE) effectiveness with current AIRC research on methodology to identify and target critical skills gaps in DoD occupations relating to acquisition, science, engineering, or other civilian occupations. Utilizing HELIX, a semiautomated framework leveraging NLP for Skill Identification and Talent Management of the Acquisition Workforce in the Department of Defense by Jose E. Ramirez-Marquez, Garry Shafovaloff, Mark Krzysko, and Dinesh Verma; feedback from DCTC DoD Strategic Partners; NDS 2023 and DoD Strategic Guidance; and OMB and Acquisition Workforce Degree Requirement Mapping. Selected research and studies can be seen in Appendix C. The gaps identified through this approach guided the development of all program components, such as curriculum, courses, and internships.



**Note: Research ongoing; initial study paper available; based on DoD critical skill gap analysis*

Figure 9. Critical skills identified through data analysis

As a result of analysis and application of the data, the critical skills identified are at the cornerstone of the DCTC curriculum and development program and compose five key skill clusters essential to thriving in today’s complex defense ecosystem: The DoD System, Digital & Data, Individual, Team, and Complex Problem Solving.

• **The DoD System**

- » **Agile Acquisition:** Learn to adapt quickly in a fast-changing environment and ensure incremental development and production of end items with user input.
- » **Develop Public-Private Partnerships:** Develop the ability to collaborate across sectors and create win-win scenarios for public entities and private companies.
- » **DoD Structures, Functions, and Organizations:** Gain insights into the inner workings of the DoD, its organizational structures, and its critical functions.
- » **Ethical and Social Responsibility:** Understand the importance of ethics and social responsibility in decision-making within the defense ecosystem.

- **Digital & Data**

- » **Cybersecurity-Centric Design Thinking:** Focus on securing systems and data from the ground up through a proactive approach to design.
- » **Data Literacy and Analysis:** Enhance the ability to interpret and use data to drive decisions and strategies.
- » **Digital Proficiency:** Become proficient in the latest digital tools and technologies that shape the defense landscape.
- » **Digital Transformation:** Lead the way in digital transformation efforts to modernize systems and processes for greater efficiency.

- **Individual**

- » **Adaptability, Resilience, and Learning:** Cultivate the skills needed to thrive in any situation and to learn and adapt.
- » **Creative Thinking and Innovation:** Foster innovation through creative problem-solving and exploring of new ideas and perspectives.
- » **Strategic Thinking and Leadership Qualities:** Develop the strategic thinking and leadership qualities needed to guide teams and projects to success.

- **Team**

- » **Collaboration and Effective Teamwork:** Learn the art of working well with others to drive collective success.
- » **Diversity:** Embrace and leverage diverse perspectives to create robust, innovative solutions.
- » **Facilitation:** Develop the ability to lead discussions and meetings to ensure productive outcomes.
- » **Impactful Communication:** Practice the skills of clear and effective communication to influence and inspire others.
- » **Influence and Networking:** Build a solid professional network and learn to influence outcomes effectively.

- **Complex Problem-Solving**

- » **Problem-Solving Approaches:** Learn structured approaches to tackling complex issues and breaking them down into manageable parts.
- » **Systems Thinking Mindset:** Develop a holistic view of how systems interact to address challenges from multiple angles.
- » **Stakeholder and Work Outcomes:** Focus on achieving positive outcomes for all stakeholders.
- » **Vision and Foresight:** Cultivate the ability to anticipate future challenges and opportunities to ensure long-term success.
- » **User-Centered Design:** Place the end user at the center of the problem-solving process to ensure practical and impactful solutions.

The DCTC program pilot development and implementation demonstrated what can be and has been achieved, what can be revised, and what more opportunities exist or can be created. The identified critical skills were foundational to the design of the program pilot. Rooted in research across the DoD, industry, and academia, the skills assessment and identification process supported a program design that prepares college students and ensures their impact on Day 1 within the DoD organization they join after graduation. This distinguishes DCTC in that it not only provides financial support for education, but also invests in students' personal and professional development by equipping them with the necessary tools to excel in the complex world of defense acquisition.

DCTC continues its commitment to refining and improving methodology to continue identifying critical skills gaps in DoD occupations related to acquisition, business, science, engineering, and other civilian occupations determined by the Secretary of Defense based on input from DoD strategic partners and industry. We are collecting data to continually understand the current state and needs of the DoD in these fields. Feedback was collected from DoD strategic partners that hosted Cohort '25 internships, each of which placed scholars within roles that aligned to current vacancies. (A critical skills assessment is available [online](#)).

INFORMED PILOT UNIVERSITIES SELECTION

For the inaugural DCTC Scholar Cohort '25 that participated in the fall 2023 semester, AIRC made a data-informed selection of four U.S. universities from within its established network of university collaborators: North Carolina Agricultural and Technical State University (a HBCU), Purdue University, the University of Arizona (a HSI), and Virginia Tech.

This task leveraged the Institute for Defense Analysis (IDA) study on DCTC options (Belanich et al., 2022), DCTC Execution Panel recommendations (Korfiatis, et al., 2023), prior AIRC research for DoD DCTC design efforts, the evolving DoD DCTC program strategy and plan, and sponsor engagements. Quantitative and qualitative university selection included:

- synthesizing related research to develop criteria and assess data to identify the initial set of pilot universities; factors included accreditation, regional access across the U.S., public-service mission indicated through land grants and public status, research quality, depth, and breadth, diversity and inclusion, local Reserve Officer Training Corps (ROTC) experience, tuition reciprocity, and other relevant parameters;
- developing a program to select and mentor faculty, administrators, and advisors for DCTC, and developing opportunities for these to engage with the DoD mission elements;
- developing a systems approach for program management and anticipated staff to support the research and development of the DCTC program, its instrumentation, and piloting, and its prototyping;
- developing a systems approach to support the government's program for university outreach and management, scholar outreach and management, and strategic communications; and
- prototyping and piloting a DCTC systems process for student pipeline management (from recruiting and support to placement and follow-up) as well as a scholar mentoring and position management process. This included the development and tracking of DCTC program outcomes, including student attraction, retention, DoD Component internship and interest, student program completion and graduation, and DoD hiring.

As a result, data-driven decisions coupled with the ability to leverage the SERC/AIRC university network led to the DCTC program pilot being tailored to meet DoD needs, provide participating scholars a head start in the acquisition mission, and establish a networked pipeline ahead of schedule to meet the urgency of national security imperatives.

METRICS AND MEASURES

Metrics and measures are crucial components of an effective scholarship and development program as these provide a systematic approach to evaluating the program’s impact and efficiency. By gathering detailed data and applying specific metrics, DCTC pilot program leaders can assess how well the program is achieving its goals. This evidence-based approach helps in refining and improving the program pilot and also ensures transparency and accountability. Additionally, robust data allows for informed decision-making and demonstrates the program pilot’s value to stakeholders, including sponsors, DoD strategic partners, and the pilot universities. Figure 10 illustrates the integral role of data and metrics in all DCTC tasks and decision-making processes.

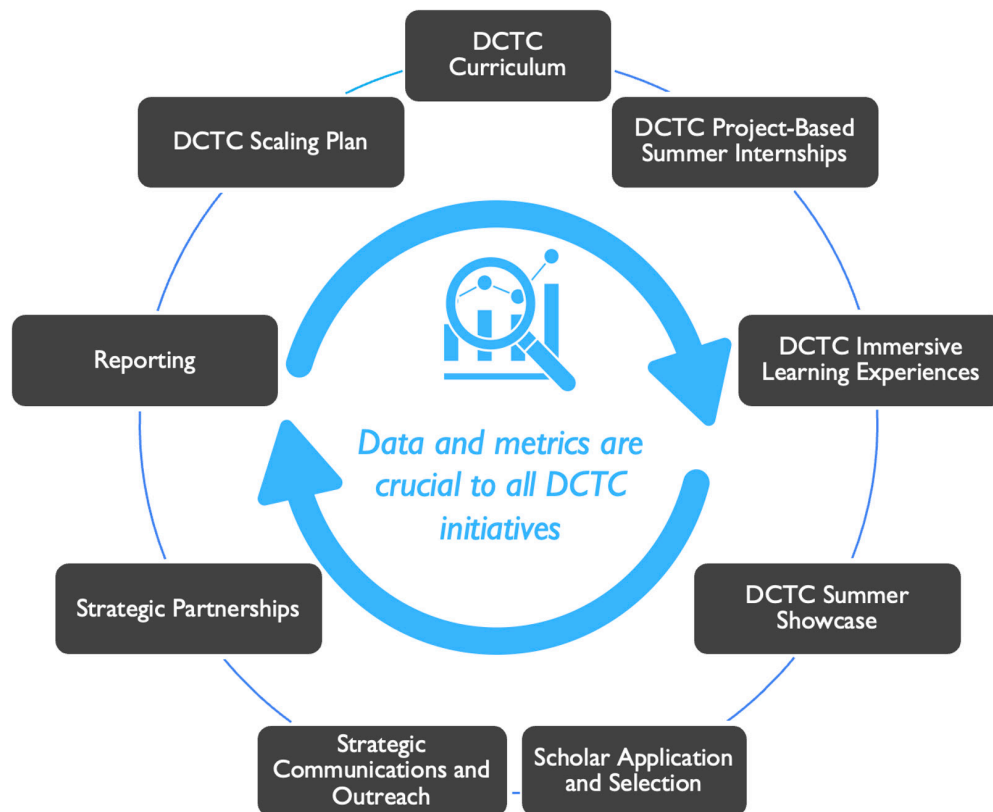
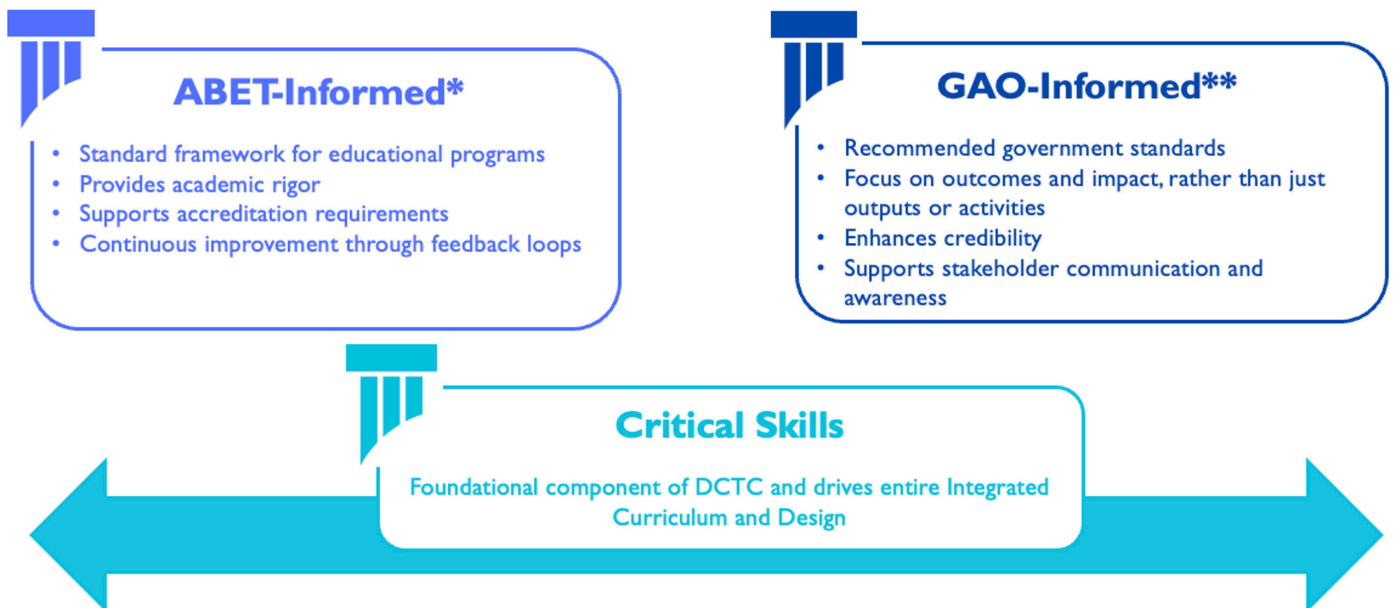


Figure 10. Metrics and Measures inform and drive continued improvement

DCTC's Metrics and Measures effort aims to:

- capture data to track program outcomes and impact, ensuring alignment with DCTC's purpose and mission;
- continuously monitor and analyze data to support program improvements;
- use a holistic and innovative approach to measure outcomes and impact, incorporating both traditional and alternative metrics; and
- provide an opportunity to leverage program pilot data and metrics to develop models that can inform workforce recruitment and development considerations.

The three pillars of the DCTC Metrics and Measures effort, illustrated in Figure 11, are described below.



* Based on Accreditation Board for Engineering and Technology (ABET) guidelines

** Based on Government Accountability Office (GAO) recommendations

Figure 11. The three pillars of DCTC Metrics and Measures efforts

ABET-Informed Model:⁶ AIRC adopted for DCTC an evidence-based process of assessment, evaluation, and continuous improvement modeled after Accreditation Board for Engineering and Technology (ABET)⁷ assessment guidelines. The process consists of three loops of assessment:

- Loop I: Close at each ICAD (Integrated Curriculum and Development) Element Level for all five elements (core curriculum courses, summer internships, senior projects, immersion learning experiences and culture of care)
- Loop II: Close at the DCTC Program Level
- Loop III: Close at the DCTC Mission Level

GAO-Informed Model:⁸ These standards are based on Government Accountability Office (GAO) recommendations⁹ that focus on:

- *Process (Implementation) Metrics* that assess the extent to which a program is operating as it was intended.
- *Outcome Metrics* that assess the extent to which a program achieves its outcome-oriented objectives, with a focus on finite and often measurable changes.
- *Impact Metrics* that refer to a much broader effect. Impact can be conceptualized as the longer-term effect of an outcome.
- *Cost Effectiveness Metrics* that identify and compare relevant quantitative and qualitative costs and benefits associated with a program or activity, usually expressed in monetary terms.

Critical Skills Analysis: These form the foundational component of the DCTC program pilot and drive the entire ICAD, as illustrated in the following figure.

⁶ <https://www.abet.org>

⁷ Ibid

⁸ <https://www.gao.gov/assets/gao-11-646sp.pdf>

⁹ Ibid

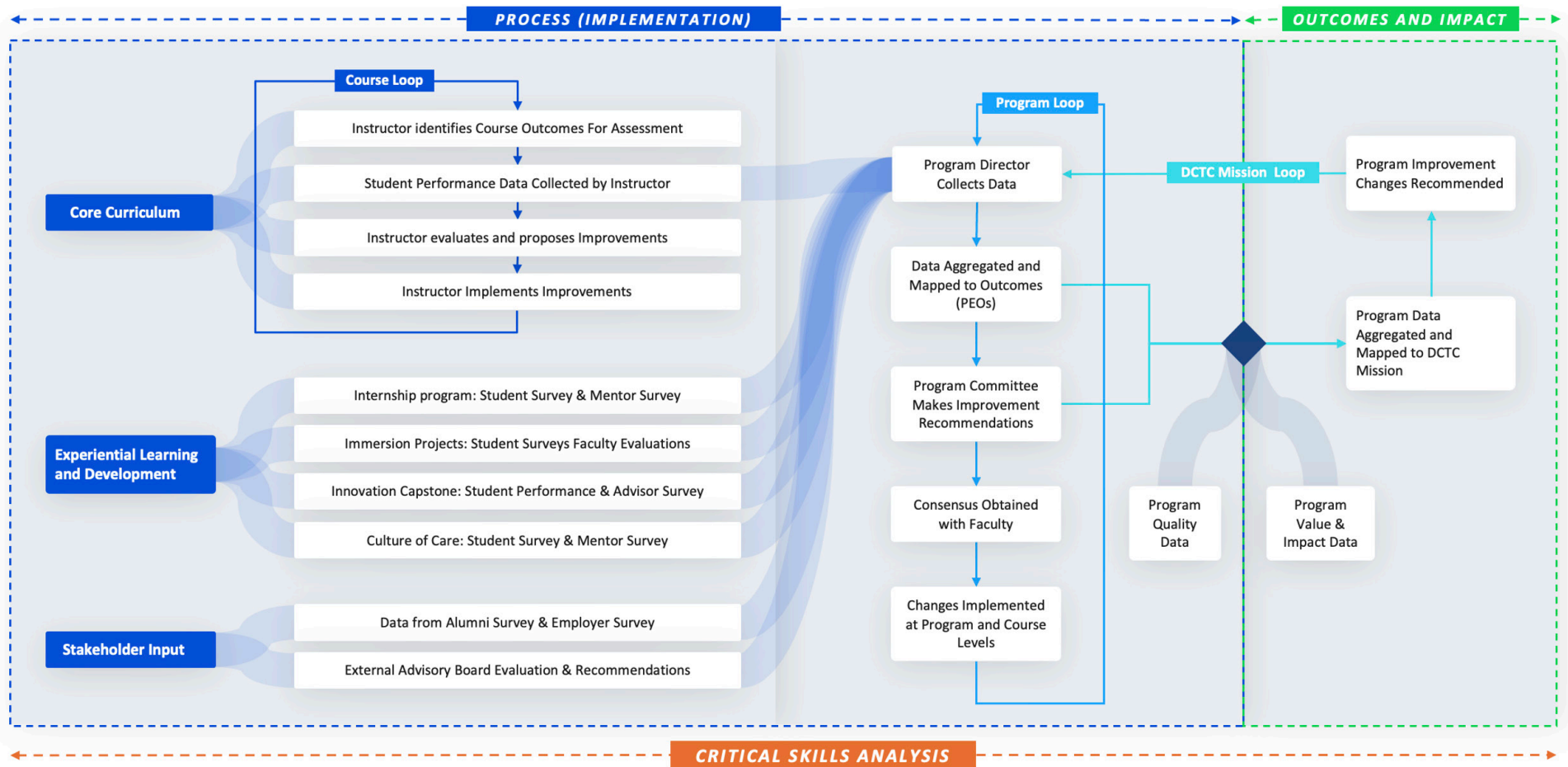



Figure 12. Assessment of critical skills drive ongoing improvement throughout DCTC

Given the importance of metrics and measurements and how they support continued improvement, these efforts are included in all DCTC program components and activities and are indicated throughout the report with the following icon: 

Additionally, Appendix D highlights some of the more comprehensive data-driven studies (course evaluations of DCTC 301 and 302, assessment of the summer internship projects, and feedback about the summer showcase) conducted during the program pilot along with insights and lessons learned.

DCTC CURRICULUM: BUILDING THE FOUNDATION

CURRICULUM

The DCTC Pilot embraces continuous improvement, knowledge sharing, and a commitment to learning as foundational. The DCTC Integrated Curriculum and Development (ICAD) approach, created and tailored by AIRC, is unique in that it gives weight to both learning in the classroom and through cohort-based problem solving and project execution on real, current, and future DoD challenges. It combines classroom lessons, active and immersive learning experiences, and project-based summer internships to develop a DoD civilian workforce ready to innovate. The ICAD philosophy is founded on the principle of multidimensional learning experiences that, by design, are seamlessly integrated. All other DCTC curricular components are built thereupon. The curriculum is tailored to align with the identified critical skills that support scholar development and achievement of national strategic goals. The metrics and measures feedback loop are integrated into the curriculum and other program components to shape continuous improvement.

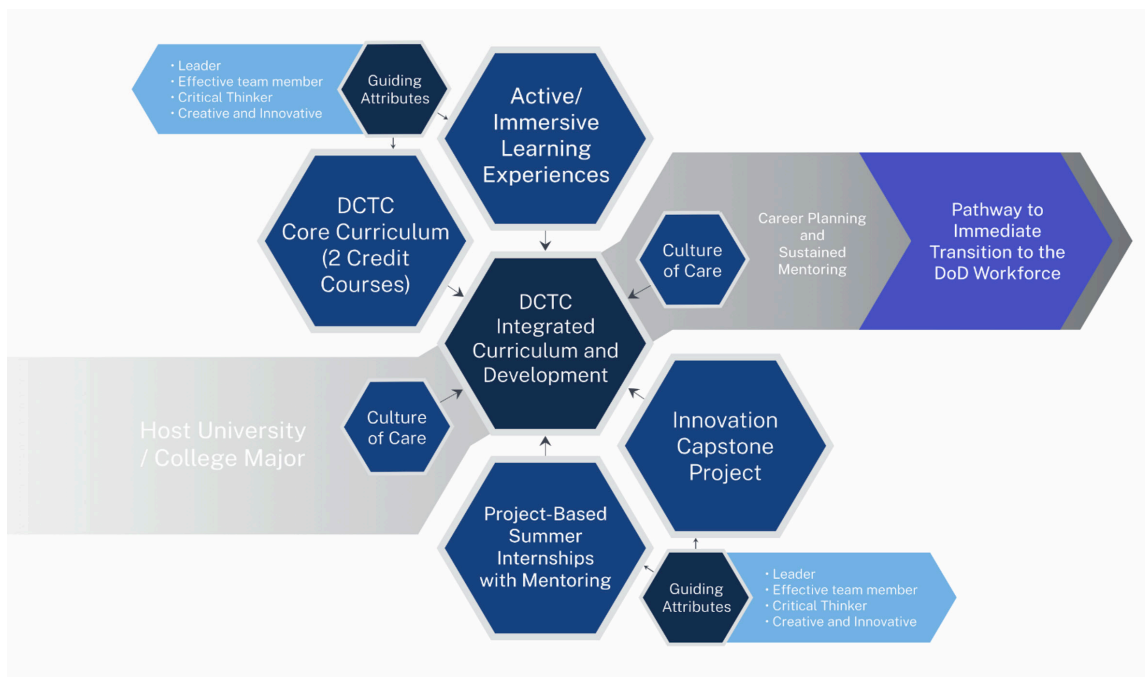


Figure 13. DCTC program components grow from the integrated curriculum

AIRC, in coordination with OSD API, established the *Why* of the DCTC program pilot: *Impactful on Day 1. Adaptable for the future.* All initiatives (past and future) related to the program are anchored to this vision. Within curriculum efforts, we aim to create a scholar-to-employee talent pipeline of graduates who can contribute to the workforce immediately. Therefore, the curriculum and education initiatives must reflect the real-world challenges of the DoD acquisition mission.

The DCTC teaching methodology establishes a consistent classroom experience across the four pilot universities to ensure that every partner upholds the stated vision. Identifying and adhering to DCTC teaching principles ensures classroom learning is student-centered and hands-on. Below are the pedagogical and instructional design methods used to build the DCTC curriculum and classroom experience.

INSTRUCTIONAL DESIGN AND PEDAGOGY

The DCTC Curriculum was designed with the aim of developing an impactful and adaptable workforce. The curriculum was developed using backwards design and project-based learning, reinforcing that preparation and learning start in the classroom through the various curriculum and development initiatives.

BACKWARDS DESIGN

Our design method prioritizes the intended student learning outcomes instead of topics to be covered (Wiggins and McTighe, 2005). For DCTC, we first considered the final project (demonstrated learning) and learning goals associated with successful completion based on knowledge and experience gained through the classroom curriculum. Lessons were then created to meet these goals.

The learning activities are completed to help scholars achieve the desired results of knowledge or practice (lectures or activities). The “desired results” are the Student Learning Objectives (SLOs), and these objectives answer the question: What should students know or be able to do at this course’s completion? Evidence of whether student performance meets the goals takes the form of assessments, exams, projects, assignments, etc.

PROJECT-BASED LEARNING

DCTC combines traditional teacher-centered learning and project-based learning, which involves students in the design, development, and construction of hands-on solutions to a problem. A 2018 study published in the *International Journal of STEM Education* examined the experiences of a group of STEM educators transitioning to a student-centered learning (SCL) approach.¹⁰ The study found that moving to SCL requires an identity-level shift in what it means to be a teacher. As stated by one educator in the study, teachers move from being “content dispensers” to “content resources,” meaning that teachers function as coaches or facilitators while students are at the helm of their learning as they explore and find creative ideas and solutions to problems.

DCTC Integration: Faculty members take a more traditional teaching approach in the DCTC 300-level course series to establish the foundation of knowledge and understanding of the DCTC program. As student competency grows, the DCTC curriculum supports more project-based learning that is student-centered.

¹⁰ Keiler, L.S. Teachers’ roles and identities in student-centered classrooms. *IJ STEM Ed* 5, 34 (2018). <https://doi.org/10.1186/s40594-018-0131-6>

ADDRESSING CRITICAL SKILLS

The DCTC curriculum targets the critical skill gaps that exist within the DoD, specifically careers relating to acquisition, digital technologies, critical technologies, science, engineering, finance, and other civilian occupations determined by the Secretary of Defense. Addressing this gap is the foundational component of DCTC and is supported by the entire ICAD. The critical skills (previously illustrated in Figure 9) are listed in the following, along with the DCTC courses that address each:

DoD Critical Skills (research ongoing; initial study paper available)		SLOs
DoD System	<ol style="list-style-type: none"> 1. Agile Acquisition 2. Develop Public-Private Partnerships 3. DoD Structures, Functions, and Orgs 4. Ethical and Social Responsibility 	<ol style="list-style-type: none"> 1. 302 2. 302 3. 301 4. 302
Digital and Data	<ol style="list-style-type: none"> 1. Cybersecurity-Centric Design Thinking 2. Data Literacy and Analysis 3. Digital Proficiency 4. Digital Transformation 	<ol style="list-style-type: none"> 1. 402 2. 301 3. 402 4. 402
Individual	<ol style="list-style-type: none"> 1. Adaptability, Resilience, and Learning 2. Creative Thinking and Innovation 3. Strategic Thinking and Leadership Qualities 	<ol style="list-style-type: none"> 1. 302 2. 401, 402, Internship 3. 401, 402
Team	<ol style="list-style-type: none"> 1. Collaboration and effective Teamwork 2. Facilitation 3. Impactful Communication 4. Influence and Networking 	<ol style="list-style-type: none"> 1. 301, 401, 402, Internship 2. 301, 401, 402, Internship 3. 301, 401, 402, Internship 4. Summer Showcase
Complex Problem Solving	<ol style="list-style-type: none"> 1. Problem Solving Approaches 2. Systems Thinking Mindset 3. Stakeholder and Work Outcomes 4. User Centered Design 5. Vision and Foresight 	<ol style="list-style-type: none"> 1. 301, 401, 402, Internship 2. 301, 401, 402, Internship 3. 301, 401, 402, Internship 4. 301, 401, 402 5. 302, 401, 402, and Internship

During the program pilot implementation, ICAD learning experiences included:

- Classroom Courses (two academic credits/semester): Launched in August 2023, the Cohort '25 core curriculum was composed of four two-credit courses given in the junior and senior years:
 - » DCTC-301 (Fall 2023): Fundamentals of Civilian Service in the DoD
 - » DCTC-302 (Spring 2024): Exploration of the DoD Acquisition Environment
 - » DCTC-401 (Fall 2024): Overview of DoD Missions and Community Functions
 - » DCTC-402 (Spring 2025): Driving Institutions to Success

The courses introduced the DoD structure, the Defense Acquisition System, and critical technology needs. Each course had well-defined learning objectives. Each lecture was developed by AIRC and delivered by instructor(s) from DCTC pilot universities. Classes included weekly modules with role-playing activities and gamified learning and replicated the experience of teams executing the DoD acquisition mission, improving retention of critical skills through simulated work activities. Also included were multimedia presentations and guest lectures, in-class discussions and analyses of critical DoD issues/acquisition case studies, and semester-long scholar team projects addressing critical DoD issues.

An example of active classroom learning is *The Acquisition Game*, a dynamic tabletop game developed by AIRC to bring the complex world of DoD acquisition to life.¹¹ The Acquisition Game (See Appendix E) challenges players to support communities affected by a simulated crisis while navigating the DoD's three-phase acquisition process—technical solution, contracting approach, and program management—and balancing user satisfaction, schedule, and cost. The game's emphasis on stakeholder approval is a crucial learning point and emulates real-world expectations. In the classroom, the game is played once at the beginning of the semester and again at the end of the semester to serve as a pre-assessment and post-assessment of learning about the acquisition life cycle. It further introduces scholars as to how they will find their fit within an organization, teaching them their role in the larger enterprise of acquisition by starting with identifying a problem or need.

- Project-Based Summer Internship and Mentoring: DCTC Cohort '25 teams spent eight weeks in DoD facilities working on real-life projects. Students were supervised and mentored by current DoD leaders.
- Active (Immersive) Learning Experiences: Scholar cohort teams competed for 2-3 full days on 'hackathons,' practicing problem-solving, risk-taking and innovating while addressing real DoD challenges.
- Innovation Capstone Projects: The planned curriculum outlined a senior year capstone challenge project to be proposed by the DoD. Over the course of the academic year, scholars would be required to develop a prototype of their proposed solution and present it to a DoD panel. University faculty and DoD leaders would serve as co-advisers.

¹¹ [Gaming the System: DCTC Scholars Master Defense Acquisition Through Play - The Acquisition Innovation Research Center.](#)

Threaded throughout the ICAD elements is the knowledge and experiences designed to expose the scholars to what the curriculum committee has labeled “guiding attributes” of a successful DoD leader, as illustrated below.

GUIDING ATTRIBUTES	ICAD ELEMENTS
Leader	Core DCTC curriculum
Effective team member	Summer internships
Critical thinker	Active/Immersive Experiences
Creative and innovative	Innovation Capstones

CULTURE

A recurring theme in DoD’s current talent strategy is “culture.” To remain competitive, DoD must continue attracting and developing top talent through institutional change and reformed business practices. At the planning level, the Department seeks to promote a retention culture by recognizing employee contributions, promoting opportunities for growth, and fostering a workplace that values diversity of thought, experiences, and backgrounds (DoD Human Capital Operating Plan FY 2022–26, p. 29).

CULTURE OF CARE

DCTC supports the DoD strategy to attract and develop talent, foster diversity and innovation, align skills with critical needs, and enhance DoD’s employer “brand.” To this end, the AIRC team built into the DCTC program pilot a Culture of Care that is woven throughout all program components and importantly, works alongside the curriculum. The aim is to develop scholars’ experimental mindsets with the fortitude to take care of themselves, the courage to care for their teams, and the creativity to care for their communities. The social connection resulting from this kind of investment in culture has been shown to improve employees’ well-being and employee retention,¹² and align with the Department’s goal of promoting a retention culture.

¹² Thornton, Karen and John Willison. Defense Acquisition University. (2024). Culture of care: Fostering a supportive environment in the Defense Civilian Training Corps. Defense Acquisition Magazine, May-June 2024. <https://www.dau.edu/library/damag/may-june2024/culture-of-care>



Figure 14. Culture of Care and its three core tenets

The Culture of Care is built on a five-part framework adapted from Jeff Bevis' 2019 Forbes magazine article, "5 Ways to Create a Culture of Care in Your Business":¹³

1. Get to know the team
2. Invest in your culture
3. Hire and recruit with care
4. Build referrals
5. Celebrate success

This approach encourages innovative thinking that strengthens the DoD's ability to achieve the enduring advantage in this decisive decade. Innovation comes from diversity of thought, which in turn derives from collaboration across a diverse team prepared and willing to embrace innovation.

¹³ [5 Ways To Create A Culture Of Care In Your Business](https://www.forbes.com/sites/jeffbevis/2019/12/23/5-ways-to-create-a-culture-of-care-in-your-business/?sh=3084ff2f1ae8). Forbes. 2019. <https://www.forbes.com/sites/jeffbevis/2019/12/23/5-ways-to-create-a-culture-of-care-in-your-business/?sh=3084ff2f1ae8>

RESILIENCE

Preparing the future workforce to be creative risk-takers starts with finding commonality and meaning, then practicing the skills needed to immediately contribute and building character through a commitment to lifelong learning. These learnable skills include resilience, which is responding to situations with carefully considered thoughts, feelings, and behaviors. Developing resilience involves complex behavioral and psychological skills. The DCTC curriculum includes lessons on resilience as part of scholars' introduction to the DoD organization and acquisition system. DoD-sponsored hackathons, competitions, and project-based summer internships create opportunities to practice the skills that build resilience: emotional regulation, optimism, cognitive agility, self-compassion, and self-efficacy.

Cohort '25 practiced and strengthened these resilience skills throughout the spring semester of their junior year and during the summer internship. As a team, they conducted After-Action Reviews following each event outside the classroom to gain practice in identifying lessons. This will be repeated by Cohorts '26 and '27. With increased resilience, DCTC scholars can adapt and become agile while remaining centered and calm. This investment in continuous practice sparks a recognition that building emotional regulation, self-efficacy, and self-compassion is a lifelong pursuit.

DCTC's resilience-building efforts align with a new workforce initiative by the OUSD(A&S) to bring employee well-being into balance with mission demands. As new DoD employees who possess the sense of agency and room for creativity that comes with resilience, DCTC scholars are more likely to continue as department employees.

ACCOMPLISHMENTS

The DCTC program pilot's overarching goal is to be a catalyst in developing the next generation of a highly skilled DoD civilian workforce supporting the Department's acquisition mission. As building blocks to achieve this goal, the following were achieved in Cohort '25's inaugural year—and are anticipated to be achieved by the subsequent cohorts:

- partnered with top-tier academic institutions and DoD organizations to recruit talented undergraduate students (STEM and non-STEM)
- provided students with scholarships and stipends
- created and tailored a curriculum that put students through a rigorous team-based educational and development program before they enter the DoD workforce

INSIGHTS AND LESSONS

At the conclusion of each semester during the first academic year of the program pilot, AIRC assessed the DCTC courses as they were presented at the pilot universities. The course-level assessment is the sole responsibility of the instructor and is based on direct and indirect evidence obtained from the students. The course instructor used the assessment results for the continuous improvement of the course. Full course assessments for DCTC 301 and 302 are included in Appendix D.

 **METRICS AND MEASURES**

Direct evidence from the students was produced as follows:

- Assessed student performance through instruments such as homework, tests, examinations, quizzes, and class participation, which are designed around the course Student Learning Objectives (SLOs).
- Other direct evidence collected by the instructor/supervisor such as student performance in group projects and teamwork.

Indirect evidence from the students was generated as follows:

- Solicited information (through a student survey) as to the degree that students perceive they have met the stated course learning objectives, and their level of satisfaction with the course and the instructor.
 - » Achieving the learning outcomes that correspond to the SLOs associated with each DCTC course is important in assessing course effectiveness and guiding continuous improvement. The instructor directly measured student performance on key aspects of an SLO and assessed class performance by the direct evidence provided by testing results. In addition, the class surveys asked students to provide their perception of how well they thought they achieved an SLO. The two results were then compared.
- Solicited comments and recommendations from the students for improvements in their learning experience.

Based on the results of the course assessment, the instructor identified weaknesses and proposed specific changes in each course to the DCTC curriculum committee. The student performance data and the course evaluation forms for DCTC-301 and DCTC-302 are provided as an addendum to this report.

SUMMARY OF FINDINGS FROM DCTC-301

Student Satisfaction: The following two student survey statements were designed to measure the level of student satisfaction: (a) Overall, the course was a great experience and (b) Overall the instructor was very effective. The student scores for statement (a) ranged from 3.7 to 4.8 on a Likert Scale of 5 (strongly agree) to 1 (strongly disagree) with an average across the four schools of 4.1. The student scores for statement (b) ranged from 4.1 to 4.9 with an average across the four schools of 4.6. A score above 4.5/5 on (a) and (b) is considered to indicate very high student satisfaction.

Achieving the Course Learning Objectives: DCTC-301 has a total of 8 SLOs. Achieving the learning outcomes corresponding to each learning objective is an important parameter in assessing course effectiveness. On a scale from 1 (low level of achievement) to 3 (high level of achievement), it was found that for all SLOs the student perception of learning objectives mastery is lower than assessed by the instructors. It must be noted that while the instructors submitted the type(s) of testing instruments used for their SLO assessment, they have not submitted any quantitative testing results for the class performance for each SLO.

SUMMARY OF FINDINGS FROM DCTC-302

Student Satisfaction: In responding to the same statements as for DCTC-301, the student scores for statement (a) ranged from 3.9 to 4.8 with an average across the four schools of 4.2. The student scores for statement (b) ranged from 4.2 to 4.8 with an average across the four schools of 4.5. A score above 4.5/5 is considered to indicate very high student satisfaction. These results are very close to the results of the DCTC-301 assessment. The students offered 53 comments in addition to their scores.

Assessment of the Immersive Learning Experience: A total of four questions were asked, one for each attribute—leadership, critical thinking, teaming and creative, innovative thinking—to assess the degree to which the students perceived they were benefited by the experience. The average evaluation score of the entire cohort across the four schools was 4.1/5.0. The students also offered 20 comments.

Achieving the Course Learning Objectives: DCTC-302 has a total of 7 SLOs. On a scale from 1 (low level of achievement) to 3 (high level of achievement). Similar to DCTC-301, there is some variability between the student perception and the faculty assessment. SLO -2 stated as *“After completing this course, I understand basic systems engineering principles and value of the systems engineering process to DoD acquisition,”* exhibits the largest difference between the instructor evaluation (3.0) and the student evaluation (2.6). SLO- 5 stated as *“After completing this course, I understand science and technology implications for project management and contracting, intellectual property, and operations and support of the military”* has the lowest average instructor score of 2.5 out of 3. It must be noted that the instructors, although they have submitted the type(s) of testing instruments they have used for their SLO assessment, have not submitted any quantitative testing results for the class performance for each SLO.

FUTURE IMPROVEMENTS AND STRATEGIES

Informed by lessons learned through our rigorous assessment during the program pilot, we will refine and improve the ICAD in accordance with our continuous improvement process.

We made considerable effort to engage DoD partners to collaborate in the design of innovation capstone projects for the senior year curriculum. We learned that our goal of developing a multidisciplinary capstone that integrates the full life-cycle of the acquisition process and includes roles for academic majors such as engineering, mathematics, finance, supply chain management, and business analytics was unattainable. We also learned from our university partners that scholars whose majors already require a senior capstone project would be stretched too thin with an additional competing capstone requirement. We used this information to build the senior year (DCTC-401 and DCTC-402) curriculum around a senior project wherein scholars form multidisciplinary teams in the classroom and do weekly work that mimics key milestones in a real-world project, such as for information gathering, stakeholder awareness, decision-making, and presentations. The year-long learning activity gives scholars an opportunity to get feedback from faculty and subject matter experts and learn to adopt feedback into project refinements before presenting a final product. As the second year of the program pilot progresses, we will assess whether the senior project meets the DCTC ICAD guiding attributes and make adjustments as necessary.

GUIDING ATTRIBUTES (updated)	ICAD ELEMENTS (updated)
DCTC Critical Skills	Core DCTC curriculum
DoD System	Summer internships
Digital and Data	Active/Immersive Experiences
Employability	Senior projects and weekly classroom activities

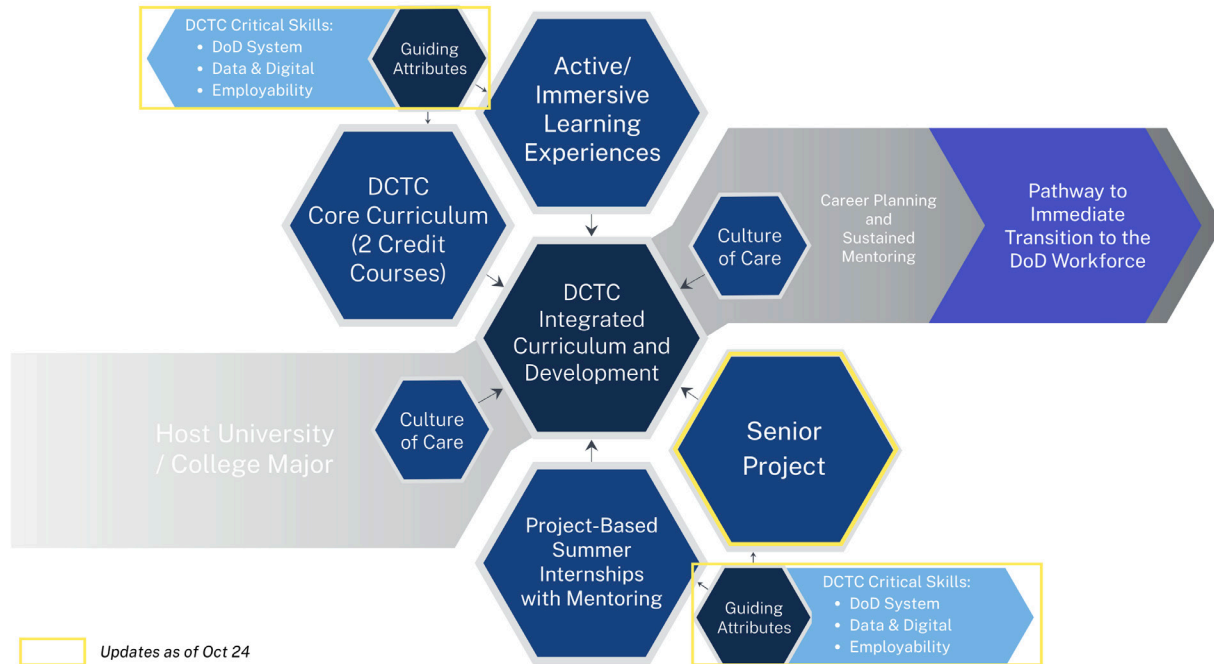


Figure 15. Updated DCTC Integrated Curriculum and Development (ICAD)

We found that in-person faculty workshops at the beginning of each semester actively prepared faculty to implement AIRC-produced DCTC curriculum and to build a sense of faculty community across the four pilot universities. We are continuing to refine oversight of classroom faculty. In addition to end-of-semester surveys, we will ensure disciplined execution of curriculum materials through in-person class audits by AIRC fellows.

In addition, we developed more opportunities to create civilian influence (across all career levels) by revising the curriculum to build time into each semester for guest presenters in the classroom and scholar site visits to local DoD installations. We will consider additional sub-contractual requirements for the universities to bring guest speakers to campus. This would be in addition to leveraging existing CDAO Digital Futures initiatives for the Active (Immersive) Learning Experiences (ALEs). ALEs entail “hackathon” type scholar team competitions on rapid, DoD related problem solving, and are aligned with the DCTC curriculum.

Recommendation

The student evaluation summary shows that:

- a) a total of 52 rating scores (39%) falls within the range higher than the 90th percentile;
- b) a total of 43 rating scores (33%) falls within the range of 80th to 90th percentile; and
- c) a total of 37 rating scores (28%) falls below the 80th percentile.

Although this distribution can be considered acceptable, it does not reflect the highest standard of excellence to which the DCTC program aspires. It is strongly recommended that the AIRC-university team **develop and implement a systematic continuous improvement process** that is guided by assessment results, including student comments. This process shall have clear and specific targets aimed to improving the student experience, learning, and level of satisfaction. In addition, the process shall include well-defined metrics and a monitoring plan to assess the degree to which the changes that are made meet the targets and achieve the desired outcomes.

STRATEGIC PARTNERSHIPS

To remain **competitive**, the DoD must make an enterprise shift to **strategically develop talent who can immediately contribute** to solving the **most challenging national security problems and adapt to the future**. The DCTC program aims to enable such a shift, a key component of which – arguably the most critical – is the project-based summer internships. These internships are part of the DCTC ICAD framework. They are the first immersive and extensive experience the scholars have with DoD organizations on their pathway to being DoD civilians. The project-based summer internships represent an opportunity for the scholars to gain firsthand insight into a career as a DoD civilian, apply lessons from the DCTC curriculum and integrated development program, and provide a pathway to post-graduation employment. For the Cohort '25 summer internships, 85 students were assigned to 27 projects across DoD.

ACCOMPLISHMENTS

The DCTC program pilot established a multi-phase process to solicit potential DoD sponsor organizations and match scholars to project-based summer internships throughout the program rather than right from the start. A key differentiator of the DCTC approach is that scholars are not immediately matched with a specific organization upon acceptance into the program. This is by design and allows scholars to gain exposure to the broader DoD system through the carefully structured DCTC curriculum. Throughout their participation, scholars have the opportunity to learn in-depth about various DoD organizations, missions, and work environments.

This approach offers a dual selection opportunity at two critical stages: the internship phase and eventual employment. At the internship stage, both the scholar and the participating organization can evaluate mutual fit, ensuring that placements align with the scholar's interests and the organization's needs. Similarly, during the later employment phase, both parties can make informed choices based on the comprehensive knowledge gained during the DCTC program. This thoughtful, data-driven approach supports optimal alignment with the DoD mission, allowing scholars and organizations to make decisions that best serve national security and talent development goals.

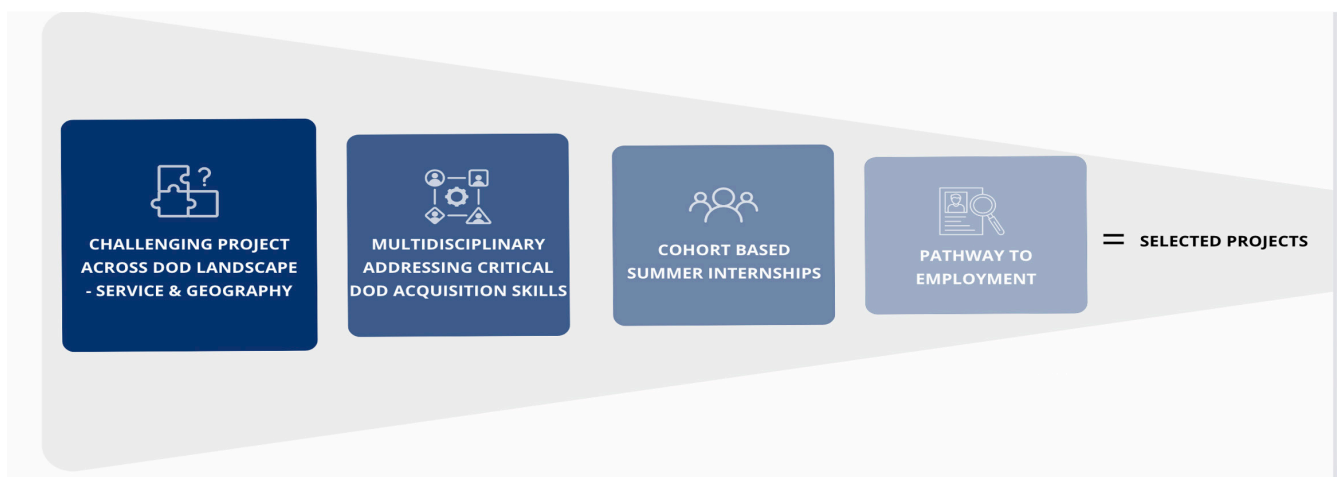


Figure 16. Cohort 2025 Project-Based Internship selection overview

The baseline plan, as approved by OUSD A&S and as distributed to the DoD strategic partners, is provided (Appendix F) and is summarized below.

Jun-Sep 23	Define intent & requirements
Jun-Oct 23	Identify select DoD organizations as potential sponsors
Aug-Sep 23	Work with 3-4 DoD organizations on exemplar projects; refine requirements
30 Sep 23	Final briefing, requirements, & template released
17 Nov 23	Project proposals due to DCTC Strategic Partnership team
5 Dec 23	Project proposal evaluation completed
7 Dec 23	DoD Sponsor review/approve project selection recommendations
14 Dec 23	Notify recommended & not recommended DoD Organizations
22 Dec 23	Initial Partner and Project Information provided to Scholars
15 Jan 24	Final Partner and Project Information provided to Scholars
30 Jan 24	Scholar preferences submitted
28 Feb 24	Partner/project selection completed; tentative scholar assignments sent to DoD partners
5 Mar 24	Confirmation received from DoD partners
6 Mar 24	DoD Sponsor approval
3 Jun-26 Jul 24	Eight-week project-based summer internship
30-31 Jul 24	DCTC Scholar Showcase: Washington, D.C.

Phase 1: For Cohort '25 summer internships, 86 project proposals from organizations across DoD were received for consideration. Proposals were evaluated against nine project requirements:

1. Challenging Problem - Problem space represents a sample of DoD's compelling problems and mission.
2. Critical DoD Skills - Critical DoD skills are developed in a project setting providing the opportunity to apply elements of the DCTC curriculum.
3. Multidisciplinary - Projects involve application of a scholar's multidisciplinary skills and require multidisciplinary collaboration across scholars.
4. Cohort-based - Cohorts of scholars from a university or across universities work as part of a team.
5. Culture of Care - Environment and experience embody the DCTC Culture of Care and support the DoD's aim to promote a retention culture.
6. Mentor Network - A mentor network is available for both project specific and overall development.
7. Support Staff/Process - Support staff and processes facilitate a top-caliber experience.
8. Representative Work - Work assigned to scholar interns represents the type of work assigned to a junior DoD civilian at the sponsor organization.
9. Pathway to Assignment - Organization has the ability to offer post-graduation employment.

Proposals were also evaluated against the DCTC goals of ensuring representation across DoD, geographic diversity, and opportunities across the acquisition lifecycle. As a result of the evaluation, 38 potential projects from 13 different DoD organizations were identified for Phase 2 of the partner organization selection process.

Phase 2: The internship selection process consisted of two parts. First, DoD organizations had the opportunity to refine the project proposals based on evaluation feedback provided. Second, project information was presented to the scholars as the basis for soliciting feedback on preferences. This phase was completed by the end of January 2024.

Phase 3: Final selection of DoD partners and projects and the assignment of scholars to those projects took place February 2024. Twenty-seven projects were ultimately selected and 3+ scholars were matched to each project, as illustrated in Figure 17.

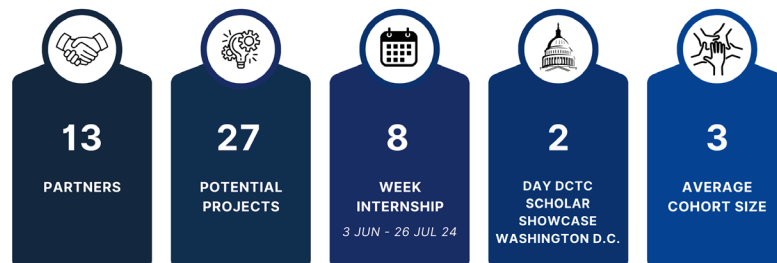


Figure 17. Cohort '25 internship proposal summary by the numbers

The DoD acquisition mission encompasses multiple stages, including technology identification operations, and support. Evaluation of the proposals for Cohort '25 summer internships included mapping the proposed projects against the Acquisition Lifecycle to ensure the projects selected were representative of the acquisition mission, as illustrated in Figure 18.

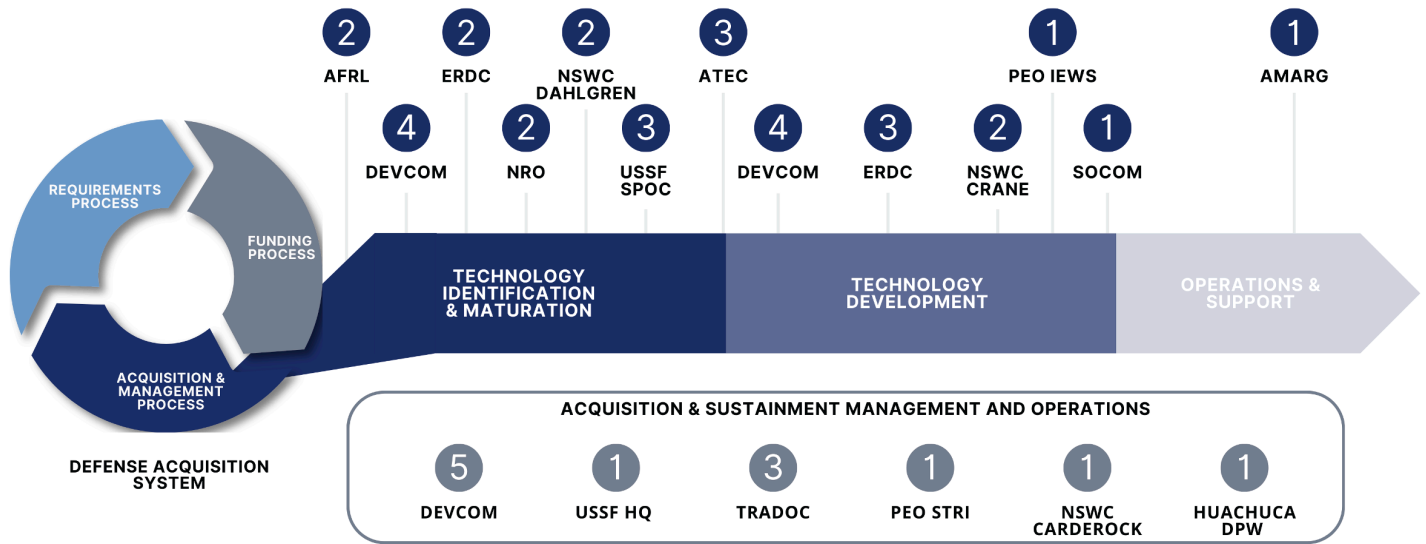


Figure 18. Internship proposals received aligned to the acquisition lifecycle

These project-based internships provide a pathway to post-graduation employment. DCTC will leverage existing relationships between the universities and DoD organizations as well as broad interest and enthusiasm by a range of other DoD organizations to ensure scholars have a diverse array of internship opportunities.

Table 2. List of Project-Based Internships for Summer 2024

DoD Field Organizations Hosting Defense Civilian Training Corps Project-Based Summer 2024 Internships		
Organization	Location	Project
1 AFMC 309th AMARG	Davis-Monthan AFB, AZ	Artificial Intelligence/Machine Learning
2 AFMC Air Force Research Lab (AFRL)	Dayton, OH	Space Cybersecurity
3 Army Corps of Engineers ERDC	Alexandria, VA	Google Earth
4 Army DEVCOM Armaments Center (AC)	Picatinny, NJ	Energetics
5 Army DEVCOM Army Research Lab (ARL)	Adelphi, MD	Future Force Integration: Merging Advanced Research with Soldier Capabilities
6 Army DEVCOM Aviation & Missile Center (AvMC)	Huntsville, AL	Army Gaming Studio
7 Army DEVCOM C5ISR Center	Aberdeen Proving Ground, MD	Fostering Prototyping for Business Growth
8 Army DEVCOM Chemical Biological Center (CBC)	Edgewood, MD	Understanding Biochemical Responses to Chemical & Biological Threats
9 Army DEVCOM Ground Vehicle Systems Center (GVSC)	Warren, MI	Soldier Operational Assessments
10 Army DEVCOM HQ G1	Aberdeen Proving Ground, MD	Shaping the Future Human Resources Strategy
11 Army DEVCOM HQ G8	Aberdeen Proving Ground, MD	Advancing DoD Financial Operations with Real-Time Data & Analytics
12 Army DEVCOM HQ S&T-I	Aberdeen Proving Ground, MD	Strategic Partnerships: Building across Defense, Industry, & Academia
13 Army DEVCOM Soldier Center (SC)	Natick, MA	Combat Feeding
14 Army PEO IEWS	Hanover, MD	Cybersecurity Testbox
15 Army PEO STRI	Orlando, FL	Collaborative Solutions & Real-World Problem Solving
16 Army Test & Evaluation Command (ATEC)	Yuma Proving Ground, AZ	Long Range Fire Corridor
17 DIA	Joint Base Anacostia-Bolling, DC	Independent Study – Intern with DIA
18 Naval Surface Warfare Center - Carderock	Carderock, MD	Engaging in Acquisition Innovation
19 Naval Surface Warfare Center - Crane	Crane, IN	Integrating Surveillance and Management
20 Naval Surface Warfare Center - Crane	Crane, IN	Research & Integration: Counter-small Unmanned Systems A Multi-Disciplinary Framework for Hypersonics (Hypersonics MDO)
21 Naval Surface Warfare Center - Dahlgren	Dahlgren, VA	Independent Study - Intern with NSWC-Dahlgren
22 Naval Surface Warfare Center - Dahlgren	Dahlgren, VA	Independent Study - Intern with NSWC-Dahlgren
23 NRO	Alexandria, VA	Climate Intelligence
24 SOCOM PEO SDA	Tampa, FL	Path to Deployment: Software Development & Cloud Services
25 USSF HQ S1	Pentagon	Shaping the Space Force Personnel of the Future
26 USSF Space Operations Command (SpOC)	Peterson AFB, CO	Advancing Satellite Tracking
27 USSF Space Operations Command (SpOC)	Peterson AFB, CO	Orbital Insight: Satellite Maneuver Detection

Relevant data for the projects and assignments include (graphics provided as Appendix G):

- 91% of scholars were assigned to one of their top three preferences
- 80% of interns have cohorts of three or more scholars; the average cohort size was three
- 74% of the projects had scholars from two or more DCTC pilot universities
- 70% of the projects had scholars from two or more academic disciplines

The mapping of the assigned scholars to the projects is provided (Appendix H).

 **INSIGHTS AND LESSONS**

Feedback was collected through a combination of surveys and site visits. Surveys were administered to both DoD organizations and scholars at the completion of the summer internships, allowing for a comprehensive evaluation of the program. The surveys gathered input on how well the internships met defined requirements and assessed scholar performance based on evaluation criteria, providing insights into both organizational and scholar perspectives. Site visits complemented the surveys, adding further context to the feedback collected.

Overall, the feedback from both the DoD organizations and scholars was overwhelmingly positive:

- The DoD partners overwhelmingly agreed that the internships met expectations: 100% of DoD partners either 'Strongly Agreed' or 'Agreed' the internships met 7 of 9 requirements.
- Most scholars were satisfied that the internships satisfied the program requirements: 94% of the scholars either 'Strongly Agreed' or 'Agreed' the internships met 7 of 9 requirements.
- Almost every scholar received overall positive performance reviews for their internship contributions.

Figure 19 summarizes the feedback on the internship experience provided by the DoD organizations (on the left) and the scholars (on the right).

	DoD ORGANIZATION FEEDBACK						COHORT '25 SCHOLAR FEEDBACK					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
The internship project's problem space represented a sample of DoD's compelling problems and mission.	75%	25%	0%	0%	0%	100%	45%	48%	5%	1%	0%	100%
The scholars developed critical DoD skills in the project setting and also provided them with opportunities to apply elements of the DCTC	70%	30%	0%	0%	0%	100%	25%	52%	16%	8%	0%	100%
The project involved application of scholars' multidisciplinary skills and multidisciplinary collaboration across scholars.	75%	25%	0%	0%	0%	100%	42%	32%	14%	9%	3%	100%
Cohorts of DCTC scholars from a university, or across universities, worked as part of the team.	75%	15%	5%	5%	0%	100%	61%	25%	4%	4%	6%	100%
The overall internship environment and experience embodied the DCTC culture of care.	65%	35%	0%	0%	0%	100%	47%	39%	12%	3%	0%	100%
A mentor network was made available for both project specific and overall development of the DCTC scholars.	75%	20%	5%	0%	0%	100%	64%	29%	3%	3%	3%	100%
Support staff and processes were provided to the DCTC scholars.	65%	30%	0%	5%	0%	100%	52%	42%	5%	1%	0%	100%
The project work represented the type of work typically assigned to an early career DoD civilian at our organization.	35%	45%	10%	10%	0%	100%	27%	31%	25%	13%	4%	100%

Figure 19. DoD organization and Scholar feedback

The DoD organizations were asked to evaluate the assigned scholars against defined criteria (Figure 20) and to offer insight into plans to either offer a position to the hosted scholars or to refer the scholars to another DoD organization (Figure 21).

	DoD ORG FEEDBACK - Individual Scholar Evaluations					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
The DCTC scholar was prepared to contribute to their internship assignment.	82%	13%	0%	2%	3%	100%
The DCTC scholar demonstrated critical thinking and the ability to offer innovative ideas.	80%	18%	0%	0%	2%	100%
The DCTC scholar worked as an effective member of the team and communicated effectively.	84%	8%	0%	5%	3%	100%
The DCTC scholar contributed to the success of the project and drove outcomes.	82%	13%	0%	5%	0%	100%

Figure 20. DoD organization feedback: individual scholar evaluations

	DoD ORGANIZATION FEEDBACK			
	Highly Likely	Somewhat Likely	Highly Unlikely	Total
I plan to offer the DCTC scholar post-graduation employment or refer the scholar for employment within the DoD	72%	19%	9%	100%

Figure 21. DoD organization feedback: individual scholar hire or referral

A summary of the general feedback from the DoD organizations on the internship process and experience is provided. The scholars were also asked at the conclusion of their internships to provide feedback on their internship experience (Appendix I).

AIRC representatives visited 50% of the projects and 66% of the scholars during the internships. Detailed notes from each of the visits are provided (Appendix J).

FUTURE IMPROVEMENTS AND STRATEGIES

Having assessed the results and the feedback provided, six major findings and associated actions were concluded. Actions have been or will be taken to improve the program for the Cohort '26 internships.

Managing Complexity – As a transformative program, DCTC has to simultaneously manage multiple goals across different organizations and groups spanning the DoD, academia, and general public.

Findings:

- While novel for most organizations and internship programs, the DCTC tenets of multidisciplinary and cohort-based were considered valuable and should continue to be emphasized going forward, some modifications may be necessary to match DoD organization hiring practices better.
- As executed, the internships ranged in the percentage of time dedicated to performing work and time to developing a broader awareness of DoD, the organization, and current challenges. Most scholars appreciated both, with an ideal mix of 60-70% project work and 30-40% broader awareness.
- There will be an enduring need to manage the following polarities (supply and demand):
 - » Leveraging the value of cohort-based and multidisciplinary development while responding to the demand for specific skills and providing a clear hiring path.
 - » Providing longer-term broad acquisition development while also providing specific entry-level skill development opportunities.
 - » Maintaining the value of flexible and informed placement options while also ensuring a certain and clear pathway to employment.

Actions:

- Document the polarities and associated actions required to effectively manage the complexity and the value proposition.

Everything Earlier - Starting and ending the selection of internship-hosting organizations process earlier will decrease uncertainty and increase effectiveness and efficiency.

Findings:

- The timing of internship assignments created a high sense of uncertainty and associated anxiousness in the scholars.
- Both the DoD organizations and the scholars expressed an interest in having the process of selecting internship projects and making scholar assignments earlier.
- Feedback highlighted issues with administrative tasks and logistics associated with on-boarding, such as security clearances, travel arrangements, housing, and facility and network access. Scholars experienced delays and a lack of clarity in these areas, which impacted their overall internship experience. Completing the on-boarding tasks took anywhere from a few days up to four weeks of the eight-week internship period.
- Suggestions include handling administrative tasks earlier and improving logistical support to streamline the process.

Actions:

- Start and end the process earlier for Cohort '26. The revised schedule will begin early October 2024 and end early January 2025.
- Add a requirement for those DoD organizations proposing internship projects that they must be capable of facilitating the completion of all on-boarding tasks with the assigned scholars before the start of the eight-week internship.

Increased Collaboration - Requiring clearer descriptions of internship projects and roles and allowing for two-way collaboration will better inform internship assignments.

Findings:

- The scholars expressed a desire for clearer information about what they will be doing, their roles, and the skills required for each project prior to selecting their project preferences.
- Project descriptions should provide a detailed understanding of the tasks, objectives, and the skills applied or developed during the internship.
- Early exposure to project details and the ability to meet with organizations before making preference selections were also suggested.
- Both the scholars and the DoD organizations requested direct collaboration to further inform the selection of project preferences and assignments.

Actions:

- Emphasize in the internship project proposal requirements the importance of clear and complete descriptions of the project, tasks, roles, critical skills, and preferred majors.
- Allocate time after scholars have selected their preferred projects for the scholars to collaborate directly with the DoD organizations. The aim is for collaboration to occur on December 2024 before the final project selections and scholar assignments are made.

Job One – Clearly defined descriptions of entry-level positions associated with DoD acquisition and internships that represent these roles will increase the scholar confidence that they are on the right initial path.

Findings:

- Going into the internships, the scholars lacked some clarity on the roles and skills associated with entry-level positions in DoD acquisition. While the internships contributed to the awareness of many scholars overall, the lack of clarity remained for some after the internships were completed.
- The scholars offered feedback on the alignment of the curriculum with their internship experience.
- The priority interest of scholars is to receive an earlier and clearer understanding of the various entry-level positions that are associated with DoD acquisition and for their internships to represent the work that would be done in those positions.
- Scholar feedback reflects a desire for internships to be both educational and practical, offering real-world experience and a clear connection to career paths.
- Some scholars expressed an interest in having internships over two summers to provide two chances to experience potential roles, to improve their understanding of entry-level work, and to better posture them for transitioning into the workforce.
- There is a strong demand for even better mentoring and career guidance, including advice on career progression and the relevance of internship experiences to future job opportunities.

Actions:

- Further research on existing DoD entry-level position descriptions and a taxonomy for capturing the data.
- Re-energize the work to create DoD acquisition personae.
- Define and implement a strategy to increase scholar access to junior-level DoD acquisition civilian personnel.
- Solicit feedback from the now-established DoD organizations regarding the curriculum to ensure alignment with their needs and the internship and entry-level position experiences.
- Leverage the new AIRC position of Career Advocate as a dedicated resource spanning both the academic portion and the initial civilian career phase.

Defined Transition - Providing a more defined transition from internship to post-graduation placement will decrease uncertainty and improve scholar experience.

Findings:

- The project-based summer internships are to provide both real-world experience and a path to post-graduation employment.
- In too many cases, the feedback was that the internships did not represent the type of work an entry-level employee would perform or there was a mismatch between scholar interest and skills to the work assigned.
- Given the aggressive schedule and the lack of a service agreement with Cohort '25, the decision had been made to not require the DoD organizations to commit to hiring the interns assigned. Further, both the scholars and the DoD organizations expressed a preference that the internships be treated as a “trial period” and that options exist after the internships are completed. Noting the value of such an approach, there is also the need for a more defined transition to post-graduation placement.

Actions:

- Implement a 1:1 service agreement for scholars beginning with Cohort '26.
- Strengthen the language on the expectations for DoD organizations to only submit internship project proposals if their intent is to offer the scholars post-graduation employment. While not requiring a guarantee on either side, the intent is to increase the likelihood that internships will lead to placement with those organizations.

Improved Communications - Streamlined and improved communications and support will increase clarity and effectiveness.

Findings:

- There is a need for better communication and feedback mechanisms, including more useful feedback forms and clearer channels for addressing issues and obtaining information.
- Scholars indicated it would be beneficial to have a point of contact (POC) for specific issues, as well as to have a better understanding of who to approach for different needs.

Actions:

- Identify the AIRC position of Career Advocate as the primary communication path for scholars for all topics associated with internships and career advice.

STUDENT ENGAGEMENT

Given the current Great Power Competition, DoD must make an enterprise shift from reactively filling individual vacancies to strategically developing talent that can immediately contribute to solving today's most challenging problems and adapt to the future. DoD's ability to achieve the enduring advantage in the decisive decade depends on the workforce's readiness to embrace innovation. Diversity of thought, derived from collaboration across a diverse team, fosters innovation.

Innovative thinking and student engagement are encouraged within the DCTC Culture of Care. DCTC's strategic talent development is achieved through an integrated curriculum of in- and out-of-classroom experiences that builds innovative thinkers and fosters human connection, meaning, and commitment to serving others. Classmates with a shared desire to serve are able to work together and forge a social bond that promotes resilience and improves performance. In the DCTC courses, scholars learn, by taking creative risks, that problem-solving and innovation happen collaboratively.

Cohort '25 scholars brought that trust and a common language to their project-based summer internships. In return, the DoD host organizations provided a mentoring atmosphere that brings out the best in each multidisciplinary team of scholars so that these learn to think in terms of "us," not "them." These factors, in addition to the identified critical skills, are of significant value to future generations of the DoD civilian workforce.

ACCOMPLISHMENTS (CURRENT STATUS)

The Culture of Care distinguishes DCTC from other scholarship for service programs in that it ensures scholars are enabled and supported to thrive through all phases of the program – during the four-semester curriculum, the transition into DoD employment, and the service obligation period. The term "Culture of Care" was adopted from North Carolina A&T University, where it is part of the HBCU tradition. All four DCTC universities are now equally invested in building a DCTC Culture of Care.

The 2023/2024 academic year began with a virtual online welcome event in September 2023 that gathered Cohort '25 scholars from the four partner universities to build an esprit de corps. Scholars were welcomed by senior DoD leaders and were able to build mentoring connections in smaller breakout sessions. Each university also hosted its own kickoff event to build camaraderie and a sense of teamwork within each school-specific cohort. The universities each created their own brand of obstacle course, scavenger hunt, and team-building events to develop trust and collaboration among the scholars. The classroom faculty observed that this sense of teamwork carried over naturally into the classroom learning activities.

Beginning in the spring 2024 semester, resilience lessons were integrated into the curriculum, in response to early research by AIRC fellows on DoD critical skills. Over the course of the semester, Cohort '25 scholars read *The Resilience Factor* by Karen Reivich and Andrew Shatte and engaged in weekly class discussions and journal entries on lessons therein. The resilience lessons created an opportunity for classroom faculty to leverage university resources related to career development and academic support. Several scholars noted the value of the resilience lessons during the July 2024 Scholar Showcase presentations. Attending representatives from OUSD(A&S) noted the resilience lessons were well-aligned to the DoD Strategic Management Plan's top priorities: Take Care of Our People and Cultivate the Workforce We Need.¹⁴

¹⁴ <https://media.defense.gov/2023/Mar/13/2003178168/-1/-1/1/DOD-STRATEGIC-MGMT-PLAN-2023.PDF>

 **INSIGHTS AND LESSONS**

Engaging with 85 scholars across four universities proved a unique challenge because AIRC's role was not initially obvious to Cohort '25 scholars. From the scholar perspective, the classroom faculty was their primary source for not only curriculum, but also internship and career guidance. As classroom faculty did not possess personal experience in civilian service with the DoD, scholars initially struggled to see themselves in the roles of DoD civilians supporting the acquisition mission.

In response, AIRC invited scholars to volunteer to serve on a group of scholar leaders – two to five scholars per university – to provide informal insights about the DCTC experience. The scholar leaders helped to funnel and reinforce information about the internship selection process directly from AIRC to the scholars. AIRC also established a LinkedIn group and social media campaign to draw practitioner attention to DCTC and create opportunities for scholars to expand their professional network and learn about the breadth of career opportunities for DoD civilians.

Leveraging professional connections with the National Contract Management Association (NCMA), AIRC garnered an invitation for seven Cohort '25 scholars from DCTC pilot universities to participate in the inaugural NCMA Nexus conference. The event was designed to create a forum where practitioners from across the full spectrum of career tracks within the acquisition workforce could share ideas and perspectives. AIRC prepared the seven scholars for a main stage interview with Defense Acquisition University (DAU) Vice President Frank Kelley. The exchange revealed that while scholars joined DCTC without prior understanding of the role of civilians in DoD, after six months of classroom curriculum they were able to appreciate acquisition professional roles and responsibilities and were very curious to take on the summer project-based internships. Later in summer 2024, three scholars showcased their summer internship project at the NCMA World Congress. Their impressive presentation inspired a number of DoD organizations in the audience to seek the opportunity to host summer 2025 internship projects. There is more that can and should be done to engage with the DAU and professional organizations like NCMA to develop scholars' professional networks and interpersonal skills. Engaging with the larger acquisition professional community will be important for long-term retention and career opportunity.

We also learned that scholar voices are the most compelling in telling the DCTC story. During the fall 2023 semester, AIRC wrote short pieces on DCTC cohort events and site visits. These pieces became models for scholars to tell their own stories and several jumped at the opportunity. Over the course of the academic year, scholars filed stories about engaging in leadership development opportunities off campus, immersive learning events on campus, and a "Maymester" visit to Washington, D.C. The scholars were remarkably open and revealing in their blog posts, sharing a compelling perspective of how much it means to be part of a team serving a mission. The scholar blog has become a meaningful way for scholars to engage with each other and to market DCTC to prospective applicants—and highlights the power of peer mentorship.

FUTURE IMPROVEMENT AND STRATEGIES

One component of the DCTC Culture of Care is a Support and Mentor Network to provide an enduring approach to mentoring and coaching. Moving forward, we will dedicate a line of effort to scholar/civilian advocacy that provides a consistent presence across all phases of the DCTC program from acceptance through service obligation fulfillment and beyond. The Scholar/Civilian Advocate will meet with scholars and civilians at periodic touchpoints throughout the program to provide transition assistance from scholar to civilian and perform exit interviews as appropriate. The Advocate will also conduct assessments with scholars, provide feedback sessions, and mentor and coach upon request. By contributing to the Culture of Care, this line of effort distinguishes DCTC from other DoD internship and scholarship-for-service programs.

STRATEGIC COMMUNICATIONS

The DCTC strategic communications efforts have yielded a considerable increase in awareness of the program throughout DoD and across the four universities. With limited staffing and resources, we leveraged the expertise of the SERC/AIRC communications team to create a strategic approach. The decision was made to focus solely on LinkedIn as the most appropriate social media platform given the diversity of audiences for DCTC: Pentagon, DoD organizations, university partners, scholars, parents, prospective students, and industry partners. As a companion to the OSD-hosted dctc.mil website, the communications team created a significant presence for DCTC on the AIRC website, which includes the scholar blog series. We also leveraged partner university communications and government relations resources to spread the DCTC story through University news articles and social media. Moving forward, the strategic communications plan will outline a schedule for updating all DCTC flyers, websites, and social media content.

ACCOMPLISHMENTS

We recognized that even without dedicated staff resources, communications would need to be a priority in the first year of the program pilot to spread information about DCTC to a broad audience to gain champions, build internship partnerships, and recruit scholars.

We began the 2023/2024 academic year by producing a DCTC media packet, which was cleared by DoD for public release and quickly became A&S's preferred source for informing stakeholders and the public about the program pilot. We further collaborated with the A&S DCTC team to craft text for the DCTC website, the primary source for a broad audience interested in learning about the program pilot, and led efforts to update content quarterly.

We leveraged the experience of the SERC/AIRC communications team to build a LinkedIn presence and posted content twice weekly, in accordance with a strategic calendar, to reach a broad, diverse practitioner audience.

With the addition of a DCTC program director in the spring 2024 semester, we built a more sound and collaborative internal editing process and produced a more reliable set of weekly reports to the DoD sponsor and university partners. This improved internal communication stream was especially important in the lead-up to the July 2024 Scholar Showcase as it became clear that the existing schedule of biweekly university partner meetings needed to be augmented.

Throughout the year, AIRC fellows made creative efforts to produce publishable articles, sit for interviews, and create opportunities for Cohort '25 scholars' voices to be heard. During the summer 2024, we created a recurring DCTC newsletter ("As it Happens") and LinkedIn series ("Where's Willison") to attract and maintain a broader audience by spotlighting DoD strategic partner support and scholar internship projects. AIRC fellows published three articles in defense media outlets and provided background content and quotes for four more. In total, 32 articles across defense media outlets featured DCTC between March 2023 and August 2024 (see Appendix K). At AIRC's request and with AIRC support, the SERC/AIRC communications team wrote feature pieces about DCTC, as did each of the four partner university communications staffs. Every article published was shared and amplified on LinkedIn, which ensured broader readership.

We also established the DCTC Scholar Blog to amplify scholar voices and provide stakeholders and future recruits an insider's perspective of the DCTC experience. These pieces became popular on LinkedIn and gave scholars an opportunity to promote one another's writing. Recognizing that effective written communication is a critical skill, we took advantage of an offer from Army AT&L magazine to engage a small group of scholar blog authors from Cohort '25 in a Writer's Workshop for scholar bloggers to improve their writing and encourage publication of a full-length article about their DCTC experience. This was a positive example of collaborating and leveraging DoD assets that can be expanded.

The improvements and refinements to the messaging are seen in the successful rollout of three major updates to the AIRC DCTC website in Fall 2024. These updates mark a significant step in improving DCTC's online presence, supporting our commitment to strategic recruitment and strengthening DoD partnerships.

- 1. Enhanced Main Landing Page** – The refreshed landing page (<https://acqirc.org/dctc/>) provides a streamlined introduction to the program, effectively conveying the mission and value to both prospective scholars and strategic DoD partners. The new design focuses on clarity and engagement, inviting visitors to explore the program's impact on national security and civilian workforce development.
- 2. Student Recruitment for Cohort '27** – We launched a dedicated recruitment section to attract talented students for Cohort '27 (<https://dctcscholarapp.acqirc.org/>). This section includes updated eligibility criteria, application guidance, and a compelling overview of the program's benefits and unique opportunities, aimed at showcasing how DCTC shapes future leaders and supports the defense acquisition mission.
- 3. DoD Internship Proposals for Summer 2025** – A new landing page invites DoD organizations to submit project-based internship proposals for Summer 2025, (<https://dctcinternships.acqirc.org/>), ensuring a strong lineup of meaningful project-based internships that align with DCTC's mission. This update supports our goal of creating impactful, real-world experiences for scholars, preparing them to make an impactful difference from Day 1.

In addition to public-facing communications, there was considerable effort on the part of the AIRC team to collaborate with OSD API to craft the DCTC Cohort '25 student offer letter and student agreement and later update the DCTC student agreement for Cohort '26 based on lessons learned. These lessons included the need to clarify the terms of the agreement, the summer internship stipend, and the forthcoming student obligation agreement, which must be signed starting with Cohort '26. Our communications efforts also included crafting application terms and criteria for Cohort '25 and Cohort '26 and collaborating with the DoD sponsor to ensure all of the Department's feedback was met.

INSIGHTS AND LESSONS

Embracing agility, feedback, and continuous improvement are critical for the success of the DCTC program pilot, however, providing the required and needed information needed to the appropriate stakeholders and impacted parties is a challenge. The following figure is a simplified version, condensing individual organizations into groupings, but illustrates the complexities and potential for cross-communication. The intent is not to prevent but to bring awareness to stakeholders with clarity.

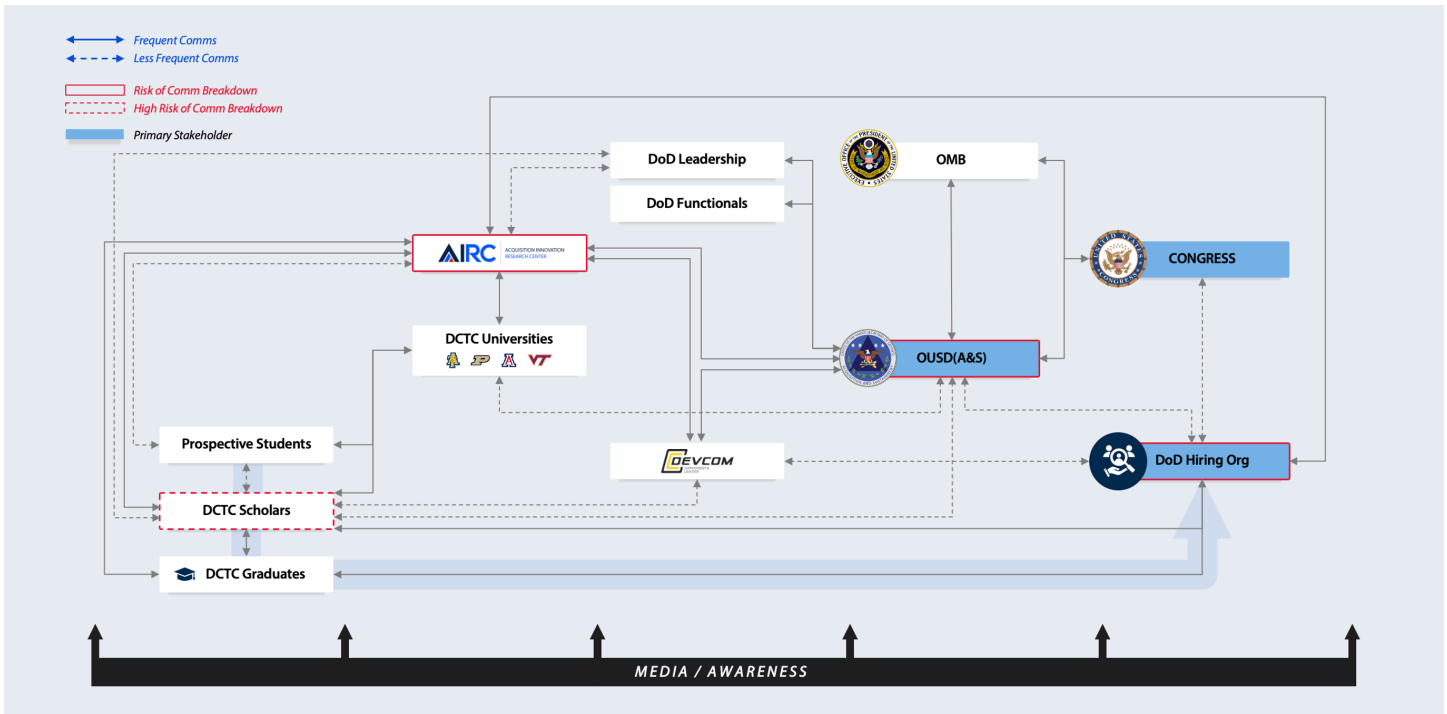


Figure 22. DCTC communication pathways

We recognized the need to continuously improve lines of communication with OUSD(A&S) and the partner universities. In response, we crafted a newsletter series and weekly updates to address the need. Additionally, we provided a separate, tailored, weekly university update.

FUTURE IMPROVEMENTS AND STRATEGIES

While we achieved considerable success in the first year of the DCTC program pilot, we look toward continued improvement. As we begin the second academic year, we have brought on additional AIRC staff to lead building and executing a communications strategy. This strategy will identify key stakeholders, establish a set of goals and purposes for expanding awareness of the DCTC program, and create a timeline for deliverables. Based on this strategy, the DoD sponsor will be able to hold AIRC accountable for achieving communications milestones with high-quality products.

FINDINGS AND RECOMMENDATIONS

The execution of the DCTC program pilot over the past 18 months has validated the efficacy of a data-informed, multi-faceted program structure that integrates academic learning, practical application, and developmental support. Central to this approach is the DCTC ICAD that includes DCTC Core Curriculum—a two-credit course designed to be taken over four semesters—alongside project-based summer internships, immersive learning experiences, senior innovation projects, and a pervasive Culture of Care. Collectively, these program components cultivate 14 critical skills across three domains—DoD System, Digital and Data, and Employability—and equip scholars with the competencies necessary for effective service within the DoD and beyond.

A critical lesson learned, and emphasized throughout the program's design and execution, is the need to “shift left” on scholar and internship selection. By executing these processes earlier in the program cycle, DCTC ensures a more comprehensive review of potential candidates and fosters stronger alignment between scholars' capabilities and the needs of the DoD acquisition mission. Additionally, this approach has improved stakeholder communication and collaboration, by creating more opportunities to contribute input and be active participants in the process, allowing for more effective coordination across a diverse array of academic and professional partners. Notably, the focus on building the DoD civilian persona has strengthened the program's ability to attract top-tier talent by rendering this career path distinct and relatable to future workforce cohorts.

PROGRAM DESIGN AND IMPLEMENTATION

- **Integrated Curriculum:** The carefully sequenced coursework, combined with hands-on learning opportunities in- and out-of-classroom, supports scholars' intellectual and professional growth. This comprehensive design ensures that graduates possess both technical expertise and the interpersonal skills required for success in dynamic, real-world settings.
- **Project-Based Internships:** By offering scholars opportunities to apply their academic-year learning in project-based summer internships, DCTC reinforces theoretical knowledge through practical engagement with real-world DoD challenges and aligns academic outcomes with DoD organizational needs.
- **Culture of Care:** The supportive, cohort-based, inclusive learning environment is a hallmark of the DCTC experience. Scholars are provided with continuous developmental support, enhancing their resilience and capacity to succeed in demanding environments.
- **Agile Approach:** DCTC's adoption of agile methodologies, particularly in accelerating the pilot program by a year, enabled rapid testing and refinement of key program components. Through iterative feedback cycles with scholars, sponsoring organizations, and internal stakeholders, the program has continuously evolved to meet emerging needs. The decision to waive the service commitment for Cohort '25 reflects the flexibility and responsiveness inherent in this approach, allowing for the validation of core program elements prior to full-scale implementation.

OPPORTUNITIES FOR GROWTH

We do not consider “piloting” of the program to end upon the completion of the first three cohorts. Beyond this initial program pilot, we envision the start of a second phase focused on scaling, defining additional business models, and testing to ensure DCTC meets the strategic goals outlined in the FY23 NDAA Sec. 860 “at least 20 accredited civilian educational institutions with not fewer than 400 members.”¹⁵ A rigorous analysis of program outcomes has revealed multiple avenues for both horizontal and vertical growth:

- Horizontal Growth

- » Expanding the number of universities participating in the DCTC program pilot to enhance geographic and institutional diversity.
- » Increasing cohort size and expanding the number of participating scholars.
- » Extending partnerships across a broader array of functional areas and DoD organizations.

- Vertical Growth

- » Expanding the selection pool to include a skilled technical workforce by recruiting from community colleges and developing a specialized curriculum tailored to this group.
- » Offering asynchronous versions of the DCTC curriculum to current pilot universities and beyond allow wider access to core content, thereby supporting the professional development of DoD personnel and the public.
- » Delivering DCTC curriculum at future partner universities through training and certification programs to increase reach and scalability.
- » Introducing tailored DCTC workshops, ranging from half-day to full-day sessions, to provide wider access to focused learning opportunities on specific themes relevant to DoD needs.

The options listed above will kickstart the research and analysis to inform the second phase focused on scaling and business models.

¹⁵ FY 2020 NDAA SEC. 860. ESTABLISHMENT OF DEFENSE CIVILIAN TRAINING CORPS, <https://www.congress.gov/116/plaws/publ92/PLAW-116publ92.pdf>

LESSONS LEARNED AND CONTINUOUS IMPROVEMENT

The DCTC program pilot has consistently embraced a framework of iterative learning and improvement, utilizing real-time data to shape program refinements. This emphasis on agility and adaptability has been essential in addressing emerging challenges and ensuring alignment between program outcomes and stakeholder expectations. The strategic decision to accelerate the pilot by one year allowed the DCTC team to gather meaningful data on scholar performance, hiring outcomes, and sponsor feedback. These insights have been crucial in validating the program's design, as well as in informing future decisions on scale, content delivery, and stakeholder engagement.

Key lessons include the importance of maintaining flexibility in program requirements—evidenced by the decision to remove the service commitment for Cohort '25—and the value of early and ongoing engagement with stakeholders. These lessons have been systematically incorporated into program improvements, enabling the DCTC to remain responsive to the evolving needs of both scholars and DoD hiring organizations.

Through constant iteration and refinement, the program pilot has met its initial objectives and has also laid the groundwork for significant future growth beyond the period spanned by the initial three cohort classes. The lessons learned and implementation of shift left processes, coupled with the program's agile framework, ensure that the DCTC remains well-positioned to address both current and future workforce challenges within DoD.

Moving forward, the program will continue to focus on both horizontal and vertical growth, while maintaining its commitment to low overhead and efficient management. The DCTC's data-driven and stakeholder-informed approach will guide the program as it scales, ensuring that it remains a vital resource for developing the next generation of DoD civilian talent.

CONCLUSIONS

The DCTC Program Pilot initial phase, launched just 18 months ago, has seen remarkable growth and success, evolving from a UARC pilot to an official DoD program. DCTC encompasses two active cohorts of scholars and is recruiting the third. With a current total of 185 scholars across Cohorts '25 and '26, the program has more than doubled in size since its launch in September 2023, positioning itself as a critical pipeline for the future DoD workforce. By accelerating the deployment of the initial program pilot by one year, the DCTC team quickly tested and validated assumptions with scholars, universities, DoD hiring organizations, DoD and Congressional stakeholders, and our immediate sponsor. DCTC is no longer a “what if” exercise; real data and user decisions are shaping the program and its future in real-time. Lessons learned are immediately incorporated to refine our approach and strategy. This accelerated strategic approach enabled flexibility to test the program’s foundational structure and obtain student engagement in the experiment before full pilot implementation and scaling. For example, a decision to not require a service commitment for Cohort '25 confirmed student interest in pursuing a DoD civilian career path and guided refinements to program design and approach for future cohorts.

The accelerated timeline for the program pilot required simultaneous focus on developing and implementing key program aspects. From selecting scholars to managing the internship matching process, these first two years have been marked by compressed schedules and rapid adaptation. Cohort '25 has proven to be an invaluable learning opportunity for the DCTC team and early lessons led to strategic shifts, such as starting the cohort selection, internship matching, and security clearance processes earlier to accommodate the compressed timeline. The DCTC team navigated and continues to navigate the complexities of academic schedules, government fiscal years, and the transition from student to professional, all while maintaining a focus on the scholars’ development and the Culture of Care. All of these changes make the experiences of Cohort '25 informative but not fully representative of the improvements already implemented and informing the overall DCTC program design. As the program pilot progresses, the lessons learned from Cohort '25 are continually shaping a more robust approach to future cohorts.

The program pilot’s span from Cohort '25 to Cohort '27 provides an incredible opportunity to test and refine the program across three distinct use cases. Individuals from across the scholar cohort, DoD hiring organizations, and OSD are actively participating to develop a sustainable, scalable, and unique approach to civilian talent development. This iterative process ensures that the DCTC program remains responsive to the needs of stakeholders while continuing to build a strong foundation for future growth.

This success could not have been accomplished without the extreme dedication and faith from the OSD API sponsor, the pilot universities, AIRC, and the research team—often involving significant time, effort, and commitment in advance of formal programmatic funding actions and agreements. Moreover, the widespread response and support from stakeholders across the DoD and Congress has been both overwhelming and critical to the ability to rapidly plan and pilot DCTC in these short months. This success illustrates what can be accomplished when true partnerships, vision, and follow-through are established to make a difference.

APPENDIX A. CONTRACTUAL REQUIREMENTS

Under research topic WRT-1080,

Task I—DCTC Piloting and Instrumentation: AIRC will examine the Defense Acquisition System as a complex ecosystem and apply a systems-engineering approach to pilot and instrument a structure for the DCTC program starting in calendar year 2023. This task will leverage the recent IDA study on DCTC options, recent DCTC Execution Panel recommendations, prior AIRC support to DoD DCTC design efforts, the evolving DoD DCTC program strategy and plan, and sponsor engagements. The pilots will apply the curricula identified and developed in Task II, targeting the DoD civilian workforce needs identified in Task III at pilot universities starting no later than the fall 2023 academic semester. Piloting includes design, implementation, and infrastructure expenses at pilot or other supporting universities, including tuition for DCTC students, other student financial support, internships, faculty, research staff, program administration, travel, infrastructure (e.g., cross-university teaming, analysis, and secure CUI processing using the DARCIE enclave), and other necessary piloting expenses. This task will include elements such as:

- (a) synthesizing related research to develop criteria and assess data to identify an initial set of universities where the DCTC program and units will be established and piloted; factors include regional access across the United States, tuition reciprocity, public-service mission, quality, research depth and breadth, diversity and inclusion, local ROTC experience, and other relevant parameters;
- (b) developing a program to select and mentor faculty, administrators, and advisors for DCTC, developing opportunities for them to engage with the DoD mission elements;
- (c) developing a systems approach for program management and anticipated staff to support the research and development of the DCTC program, its instrumentation, and piloting, and its prototyping;
- (d) developing a systems approach to support the government's program for university outreach and management, scholar outreach and management, and strategic communications; and
- (e) prototyping and piloting a DCTC systems processes for student pipeline management process (from recruiting and support to placement and follow up) as well as a scholar mentoring and position management process. This will include the development and tracking of DCTC program outcomes, which may include DCTC student attraction, retention, DoD Component internship and interest, student program completion and graduation, and DoD hiring.

Task II—DCTC Curricula: Develop comprehensive initial DCTC curricula that is responsive to the intent of the DCTC program. These curricula will be structured for inclusion in DCTC piloting efforts while accounting for the multitude of DoD workforce domain functions, cross-functional interactions, technical literacy needs, and critical skills that the DoD is likely to need (see Task III). Curricula will be sharable across DCTC pilot universities (e.g., through distance learning and collaboration) while allow experimental differences at individual pilots. As appropriate, curricula will leverage relevant DoD, university, and industry programs and curricula already in existence, such as those in the Senior Reserve Officer Training Corps (ROTC) programs of each military service and curricula in other university national security training programs, including (if needed) the acquisition of existing courseware, models, and tools and their associated licensing. Develop options for continued curricula development for subsequent phases of DCTC.

Task III—DoD Civilian Workforce Needs Assessment: Conduct the necessary research to develop a system for the synthesis and anticipation of critical civilian workforce needs within the extended DoD civilian enterprise to include relevant stakeholder and governance models for identifying needs of the future. This may include cross-functional and technology literacy needs within the extended DoD civilian enterprise, including stakeholder and governance models for identifying hiring and workforce needs of the future. To inform immediate curricula development, AIRC may develop initial candidate needs based on existing national security and defense strategies, studies and their recommendations, other DoD strategies and leadership priorities, and the experience of AIRC faculty, students, and researchers.

Task IV— Interactive Student Enrichment. Develop and pilot interactive student-enrichment approaches, including engagement opportunities across individual universities to foster unity of the DCTC cohort, facilitate cross-disciplinary literacy and cooperation, and develop student understanding of the practical aspects of civilian work and leadership in the DoD. Develop approaches that could eventually engage 750 to 1,000 undergraduate students from STEM (science, technical, engineering, and mathematics) and non-STEM majors as DCTC scales in the future. Develop plans to incorporate the breadth of disciplines and functions of interest to the DoD (e.g., Data Analytics; Procurement and Contracting; and Business). Support student development through practical, real-world problem-solving projects; visits to and internships at DoD components or other relevant organizations; and leadership engagement and development to help build the future civilian leaders in the DoD.

APPENDIX B. COHORT '25 SCHOLAR TESTIMONIALS

DCTC IMMERSIVE LEARNING EVENTS:

“Being able to directly interact with the content our cohort has spent the past year learning was a really refreshing experience. The puzzles were well thought out, requiring us to use everything we learned to justify our answers. Racing against our peers to unlock the final puzzle box added a level of excitement we hadn’t expected. The staff and industry professionals created a welcoming environment where we were able to ask questions and really think through the problems ourselves.

In order to succeed, we had to work as a team. We all provided different attributes and perspectives which were advantageous due to the wide diversity of categories we had to solve. Teamwork was also helpful due to the time-restriction and the high intensity environment. Briefing the senior leaders put us in a position where we had to present our strategy, explain why it was beneficial, and answer tough questions, which is useful real-life exposure. We really enjoyed this program and would love to participate in more events like this!

The practical application of our knowledge was an extremely welcome change of pace from our typical college coursework.”

~ **Jay, Brooke, and Nick (Virginia Tech)**

“As an engineering student, I tend to only focus on the creating solutions instead of the bigger picture, so when going through these workshops, it helped me think about our users, the importance of asking background questions, and picking out the why in why we care.”

~ **Akira (Arizona)**

“It was refreshing to work with a career professional on an actual, ongoing problem rather than school projects that have a smaller scope. Our team used the skills presented to make our own presentation on JITC’s background/issues, the problem as we found it, as well as a value proposition. Through this project I gained a unique perspective on the challenges of moving the working parts of the DoD toward modernization. It was also impressive and inspiring to see the presentations my peers came up with in such a short period of time.”

~ **Owen (Arizona)**

ACTIVE LEARNING IN THE CLASSROOM:

“The board game exercise, paired with collaborative discussions, has equipped me with valuable tools to approach acquisition challenges with foresight, strategy, and confidence.”

~ **Max (Arizona)**

“With the Acquisition Game, learning the acquisition process is not only educational but also enjoyable. Working through the procurement process can be daunting, but with the acquisition game’s realistic scenarios, we were able to use critical thinking, strategic decision-making, and teamwork to create strategies and learn hands-on.”

~ **Faith (Virginia Tech)**

SITE VISITS OFF CAMPUS:

“Attending the Nexus conference, co-sponsored by the **National Contract Management Association (NCMA)** and **Defense Acquisition University (DAU)**, was a major step out of my comfort zone. To begin with, it was the first time that I was traveling to the East Coast ALONE, my first networking event, and my first interview in front of many people. Despite being a reserved person, I surprisingly bonded with other DCTC students from various universities. It seemed that we had known each other for many years. Sharing experiences from our universities and discussing our appreciation for the DCTC program helped form this quick bond, especially during an off-site event. Being the youngest attendees, we gravitated towards each other, finding a common ground in our unique situations.”

~ **Dalia (Arizona)**

“One of the most memorable moments [of visiting the Pentagon during Maymester in DC] was meeting the Honorable Cara Abercrombie, the Assistant Secretary of Defense for Acquisition. We visited her office at the Pentagon to share our experiences and enthusiasm for the DCTC program. Our discussion focused on what we learned in the program and how it has shaped our career trajectories. At Purdue, we were taught about the acquisitions process within the Department of Defense (DoD), particularly how programs of record are supported and maintained to achieve DoD missions....At the end of our meeting, she presented each of us with a challenge coin.”

~ **Aubrey (Purdue)**

“DCTC has been an incredibly eye-opening and educational experience so far and one that I was never expecting to have in college. Within the classroom, we have learned about the ins and outs of the DoD's acquisition workforce, the importance of maintaining beneficial and mutual relationships with the government, industry, and academia, and how we might help move the DoD acquisition community into the modern age.... My biggest takeaways from our AMARG visit were that a revamped and more efficient asset management system would be mutually beneficial for The Boneyard and its customers and that decommissioned planes are really cool!”

~ **Ceili (Arizona)**

BUILDING A MULTIDISCIPLINARY CULTURE OF CARE:

“We have built a community that we will have through our undergraduate education and perhaps the workforce one day. As scholars of the first DCTC cohort, it is our responsibility and opportunity to shape our current community image.”

~ **Armand (Purdue)**

“ [collaborating with classmates from other majors has shown] the importance of embracing diverse viewpoints while ultimately enriching our collective understanding and appreciation of the possibilities that lie ahead. Innovation doesn't always necessitate a wearisome, strictly professional demeanor but can foster a sense of playfulness and creativity, leaving me with a sense of wonder and excitement for the future.”

~ **Katlind (Arizona)**

“As a DCTC scholar, I've already struggled with imposter syndrome. I don't yet know all of the intricacies of the DoD and US military, and I'm a biological systems engineering major, which I never thought would be needed in any great capacity, in the same way international relations or cyber security majors are needed. Since hearing that I'd been accepted, I've kept thinking, “Wait, why would the DoD want me?” But as we've been assured by DCTC directors, guest speakers, etc., there are all types of people in the DoD. All types of knowledge and experience are both needed and wanted. So why does the DoD want someone like me? Why were each of us chosen for this opportunity? Because we each bring a new perspective, and DCTC is cultivating our potential so we can serve our country in a different way from what most people imagine.”

~ **April (Virginia Tech)**

THE INTERNSHIP EXPERIENCE:

“On top of our multidisciplinary project, our supervisor has been emphasizing the importance of learning how the Detroit Arsenal operates and what the GVSC has to offer. This has entailed meeting with the base’s senior leadership including Director Mike Cadieux, with whom we had an hour-long discussion about the DCTC program as well as what it means to be a leader. We also had the opportunity to shake hands with General Camilla White, who assumed the position of PEO at the arsenal this week.

~ Chris (Arizona)

“**The summer internship project isn’t just about developing and presenting ideas; it’s about personal growth and embracing a new work culture.** It has shown me why classroom learning is crucial and what an internship should truly embody, and helped me *recognize my importance* in every project, no matter how minuscule.”

~ Tamara (NCA&T)

APPENDIX C. SELECTED RESEARCH AND STUDIES

Belanich, J., Bhatt, S., Last, H., Mantua, J., & Sang, J. (2022). Defense Civilian Training Corps: Initial Plan and Alternative Options. *Institute for Defense Analysis*.

Korfiatis, G., Freeman, L., Justice, N., Lombardi, J., Seraphin, A., Shepherd, W., & Trojanowski, D. (2023). Defense Civilian Training Corps (DCTC) Implementation Recommendations. *Acquisition Innovation Research Center*.

Ramirez-Marquez, J., Shafovaloff, G., Krzysko, M., & Verma, D. (2024). A Semiautomated Framework Leveraging NLP for Skill Identification and Talent Management of the Acquisition Workforce in the Department of Defense. *Acquisition Research: Creating Synergy for Informed Change*.

APPENDIX D. DATA-DRIVEN STUDIES CONDUCTED DURING THE PILOT PROGRAM

AIRC Staff. (n.d.). (rep.). *DCTC-301: Course Assessment Final Report Fall Semester 2023.*

AIRC Staff. (n.d.). (rep.). *DCTC-302: Course Assessment and Evaluation Spring Semester 2024.*

APPENDIX E. THE ACQUISITION GAME

News

JUNE 18, 2024

Gaming the System: DCTC Scholars Master Defense Acquisition Through Play

After a devastating wildfire ravages the Arctic, leaving thousands stranded without food, water, and shelter, you must support the Department of Defense's (DoD) humanitarian response by utilizing military situational awareness capabilities to coordinate relief efforts.

Such is the premise of The Acquisition Game, a dynamic tabletop game that brings the complex world of DoD acquisition to life—and is an integral component of the [Defense Civilian Training Corps](#) (DCTC) curriculum.

DCTC was launched in the summer of 2023 as a congressionally-mandated talent development pilot program guided by the [Acquisition Innovation Research Center](#) (AIRC), a multi-university partnership led by Stevens Institute of Technology and sponsored by the DoD through the [Systems Engineering Research Center](#). DCTC offers a diverse curriculum focused on active learning, including summer internships at DoD organizations, a full tuition scholarship, and career preparation for DoD acquisition roles.

DCTC's inaugural cohort includes 86 scholars representing 49 academic majors from North Carolina Agricultural and Technical State University, Purdue University, the University of Arizona, and Virginia Tech. [Karen Thornton](#), an AIRC Fellow and adjunct professor at the George Washington University Law School, helped implement the program and integrated The Acquisition Game into DCTC's curriculum.

"The game fosters a deep understanding of the DoD's acquisition processes and the critical importance of strategic decision-making," said Thornton. "It introduces scholars to how they're going to fit in the organization, teaching them their role in the larger enterprise of acquisition, starting with identifying a problem or need."

Developed specifically for DCTC scholars by AIRC Fellows [Tory Cuff](#) and [Matt MacGregor](#) and retired AIRC colleague [William Rouse](#), The Acquisition Game challenges players to support communities affected by a simulated crisis while navigating the DoD's three-phase acquisition process—technical solution, contracting approach, and program management—and balancing user satisfaction, schedule, and cost. The game's emphasis on stakeholder approval is a crucial learning point and emulates real-world expectations. The game designers solicited and incorporated insights through initial play and feedback from senior leaders in the DoD such as Mr. Mark Krzysko, who serves as the Principal Deputy Director of Enterprise Information for Acquisition Data and Analytics in the Office of the Under Secretary of Defense for Acquisition & Sustainment.

“Making decisions about what kind of technical solution to take, how to contract for it, how to do market research, and how to negotiate always comes back to time, cost, and user satisfaction,” explained Thornton. “The game does a great job drilling this concept into the scholars’ minds.”

While solo play is an option, The Acquisition Game is designed for team play, reflecting the collaborative nature of defense operations and DCTC’s multidisciplinary, integrated learning experience.

“In the DoD and many large organizations, people often work in silos within their specializations,” said Thornton. “Even the smartest engineers can be stymied if they view every issue as an engineering problem when it might actually be a finance problem. We want our scholars to understand that it’s not just the technological solution that will keep us ahead of our near-peer adversaries. It’s also having a team that works collaboratively and communicates well.”

Each team begins the game with 10 schedule chips, 10 funding chips, and eight satisfaction chips. The team with the player whose birthday is closest to July 26—the day the DoD was established—takes the first turn. Teams choose from three technical solutions—UAV swarm, UAV fleet, or satellite—setting the stage for their strategy. As the game progresses, teams encounter wild cards that introduce unforeseen obstacles that push them to adapt quickly and think on their feet. The team with the most user satisfaction chips at the end of the game is the winner.

“Playing a game with real-life scenarios and exposure is much more impactful than just learning from a textbook,” said Thornton. “When the scholars roll the dice and realize there is no textbook answer to the problems we face today in this volatile world, they learn resilience and the ability to stay calm under pressure and work as a team.”

Feedback from scholars has been overwhelmingly positive. Max Davis, a DCTC scholar at the University of Arizona, said, “The board game exercise, paired with collaborative discussions, has equipped me with valuable tools to approach acquisition challenges with foresight, strategy, and confidence.” Faith Jones, a DCTC scholar at Virginia Tech, said, “With the Acquisition Game, learning the acquisition process is not only educational but also enjoyable. Working through the procurement process can be daunting, but with the acquisition game’s realistic scenarios, we were able to use critical thinking, strategic decision-making, and teamwork to create strategies and learn hands-on.”

Looking to the future, DCTC will double down on gamification as a framework for instruction. The curriculum team is adding more complexity to The Acquisition Game for advanced players and arranging a summer internship for three scholars with the Army Gaming Studio, renowned for its innovative work in gamified learning for soldiers on the battlefield. This collaboration will adapt the board game into a video game, introducing new acquisition factors and role-playing features, and expanding its reach to a broader audience. The DCTC curriculum team has also begun designing an Industry Game that simulates company decisions in government partnerships, and there are also plans to build a Planning, Programming, Budgeting, and Execution Game that mirrors the defense resourcing process.

“Learning through play prepares our scholars to be productive members of the DoD acquisition community,” said Thornton. “It’s about grasping the process, honing multidisciplinary problem-solving skills, and cultivating a sense of community and service-oriented mindset to help solve our complex national security problems effectively.”

Read the [paper on The Acquisition Game](#) that Tory Cuff and Matt McGregor submitted to the 2024 Naval Postgraduate School Annual Acquisition Research Symposium.

Follow [AIRC on LinkedIn](#) for updates on acquisition research and [DCTC on LinkedIn](#) and the [DCTC Scholars Blog](#) for updates on the pilot program.



**WILD CARD:
LEADERSHIP
REVIEW**


Select if you roll: 4 or 6

**CONTRACTOR
FIRES PROJECT
MANAGER**

Delays in project timelines
and knowledge loss as a
result of turnover, driving
schedule and cost increases.




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**WILD CARD:
PROTEST STATUS**

Select if you roll: 1, 2, 3, 5, 6



APPENDIX F. SUMMER INTERNSHIP PROJECT PLAN



Defense Civilian Training Corps

National Security Leaders Today and Beyond

DCTC Pilot – Summer Internship Projects Cohort 0 – Summer 2024

Project Requirements – v1.0, 30 Sep 23

Overview.

A critical component of the Defense Civilian Training Corps (DCTC) Pilot Program is the Summer Internship Projects proposed by and hosted at select DoD sponsoring organizations. The DCTC Program will leverage existing relationships between the Universities and DoD organizations as well as broad interest and enthusiasm by a range of other DoD organizations. The summer internships represent an opportunity for the scholars to gain firsthand insight into a career as a DoD civilian, apply lessons from the DCTC curriculum and integrated development program, and provide a pathway to post-graduation employment.

Project Requirements.

Requirement	Description
1 – Challenging Problem	Problem space should represent a sample of DoD’s compelling problems and mission.
2 – Addresses Critical DoD Skills	Critical DoD skills are further developed in a project setting; applies aspects of the DCTC curriculum.
3 – Multi-disciplinary	Require application of a scholar’s multi-disciplinary skills and the multi-disciplinary collaboration across scholars.
4 – Cohort-based	Cohorts of scholars from a University or across Universities to work as part of a team.
5 – Culture of Care	Environment and experience embody the DCTC culture of care.
6 – Mentor Network	Availability and role of a mentor network for both project and general development.
7 – Support Staff/Process	Support staff and processes facilitate a top caliber experience.
8 – Representative Work	Work represents the type of work assigned to a junior DoD civilian at that organization.
9 - Pathway to Assignment	Proposing organization(s) have the ability to offer post-graduation employment.

Description of Project Requirements & Reference Documentation:

1 – Challenging Problem. The DoD has some of the most important, challenging, and interesting problems to solve as part of its mission. It is this purpose that serves to attract and retain the highest caliber talent. The intent of the internship projects is to present a challenging problem for the scholars to address.

2 – Address Critical DoD Skills. A fundamental aspect of DCTC is the development of critical DoD skills in advance of joining the DoD workforce. The internship projects represent an important component of the development of those skills, with the intent of the project being an opportunity to both apply the skills learned and to further develop skills. A summary brief of the curriculum/critical skills is provided as reference.

3 – Multi-disciplinary. Defense business, to include acquisition, is a team sport requiring the combined effort of individuals with varied and complimentary disciplines, functions, and experiences. The intern projects are intended to provide an opportunity to work on a multi-disciplinary team and an opportunity to develop multi-disciplinary skills. The set of bios of the DCTC scholars is provided as a characterization of the disciplines and interests of the talent.

4 – Cohort-Based. As outlined above, most work in DoD is done as part of a team. Further, a cohort-based approach to development, hiring, and work is considered more effective and more rewarding. The intern projects are intended to involve cohorts of scholars. While no specific team size is specified and will vary from project to project, it is expected that the projects proposed capture the spirit of this intent.

5 – Culture of Care. The DCTC Culture of Care provides the framework to build resilience, the foundation of thriving, in DCTC scholars. In this context we define thriving as the continuous process in which scholars develop and refine competencies that allow them to function optimally in complex and uncertain situations. Resilience is a way of responding to situations that involves thoughts, feelings, and behaviors. Developing resilience involves a complex set of behavioral and psychological skills. The Army proved resilience can be taught and measured, which led to a mandate for resilience to be part of every soldier's training. DCTC is following the same brain science and taking a five-step approach to building a Culture of Care for the future civilian workforce: (1) Get to know the team, (2) invest in your culture, (3) recruit/hire with care, (4) build referrals and give back, and (5) celebrate success. The intent is for the intern projects to embody a culture of care.

6 – Mentor Network. The presence and engagement of a mentor network is one of the most valued experiences in internship assignments. To ensure the scholars and the sponsoring organization get the most out of the intern project experience, a mentor network must be provided across the range of specialized skill, DoD organizational, and broad career development interests.

7 – Support Staff/Process. As stated above, the intern projects are scoped to tackle challenging DoD problems. To enable this focus, a support staff and established processes for providing the scholars everything they need to thrive is required. The support requirements include ensuring access to facilities, access to networks and support equipment, and all business functions associated with hosting the cohort of scholars.

8 – Representative Work. In addition to providing an opportunity to apply and develop skills, the internship projects also provide important insight into the career of DoD civilians, and into the specific mission and work of the specific sponsoring DoD organization. It is expected that the internship projects are representative of the work that is executed by the proposing DoD organization. These experiences will inform both the organizations and the scholars on decisions concerning the ultimate placement of the scholars.

9 – Pathway to Assignment. The internship projects in and of themselves provide invaluable experience for the scholars. That said, the ultimate goal is to place the scholars in post-graduation assignments where they can contribute immediately and effectively. To do so, the sponsoring organizations must have the authority and the interest to make job offers to the scholars. The opportunity to make offers is not limited to the specific scholars hosted on the project. The goal is for the organization and the scholars to have choices concerning placement.

Approach to Summer Internship Hiring and Sponsoring Organization and Project Selection.

Internship Hiring - There are numerous benefits to begin on-boarding the DCTC scholars as DoD employees as early in the program as possible to include: getting a Common Access Card (CAC) to enable access to DoD installations, getting a '.mil' account and email address to enable access to DoD network and applications, and to initiate a timely pursuit of a security clearance. It is also a sign of commitment from the DoD to invest in the future of the scholars as DoD civilians. To this end, DCTC is working with the Army Futures Command (AFC) Combat Capabilities Development Command (DEVCOM) to utilize existing authorities to initiate the on-boarding process for the cohort of DCTC scholars during the Fall Semester of 2023. Various alternatives are being evaluated, to include Term, Temp, and Student Volunteer type positions. In any case, this will allow for a more seamless transition to the Summer Internship Project experience and will not limit in any way any interested DoD organizations in making full-time employment offers to any of the scholars prior to graduation.

As there are 4 DCTC pilot Universities, there will also be pilot DoD organizations that will be selected to sponsor the Summer Internship Projects. These organizations will be selected from a combination of organizations with an existing relationship with the pilot Universities, organizations that have communicated an interest in and support for DCTC, and organizations invited to be a sponsor. In addition to meeting the stated project requirements, consideration will be given to ensuring there is a diversity of missions and experiences to best inform the pilot.

Timeline:

On-going – Engage with DoD organizations.

May-Oct – Identify and implement approach to internship hiring.

Jun-Sep – Define Internship Project Intent & Requirements.

Jun-Oct – Identify select DoD organizations as potential Summer Internship sponsors.

Aug-Sep – DCTC Strategic Partnership team to work with a sample of select DoD organization to refine project requirements & develop standard template to be completed for all proposed projects.

Aug-Sep – Universities invited to work with select existing DoD partners to develop project proposals based on the defined intent and requirements. Universities requested to provide feedback to the DCTC Strategic Partnership team to assist in refining the requirements and standard template.

1 Oct – Release final requirements, template, & exemplar projects to the list of select DoD Organizations to inform development of proposed projects.

3 Nov – Project proposals due.

Nov – Projects evaluated and selected.

Dec – Select sponsoring DoD organizations & projects; complete student pairing.

APPENDIX G. INTERNSHIP PROPOSALS SELECTED



INTERNSHIP PROPOSALS SELECTED: BY SERVICE



DoD

- SOCOM PEO SDA - 1
- National Reconnaissance Office (NRO) - 1



Navy

Naval Sea Systems Command

- Naval Surface Warfare Center - Crane - 2
- Naval Surface Warfare Center - Carderock - 1
- Naval Surface Warfare Center - Dahlgren - 2



Space Force

- HQ - 1
- Space Operations Command (SpOC) - 2 (4 proposed)



Army

- PEO STRI - 1
- PEO IEWS - 1
- DEVCOM - 10 (15 proposed)
- US Army Corps of Engineers ERDC - 1 (5 proposed)
- Army Test & Evaluation Command (ATEC) - 1 (3 proposed)



Air Force

- Air Force Research Lab (AFRL) - 1 (2 proposed)
- 309th Aerospace Maintenance & Regeneration Group (AMARG) - 1

All 13 partners represented in the down select are involved

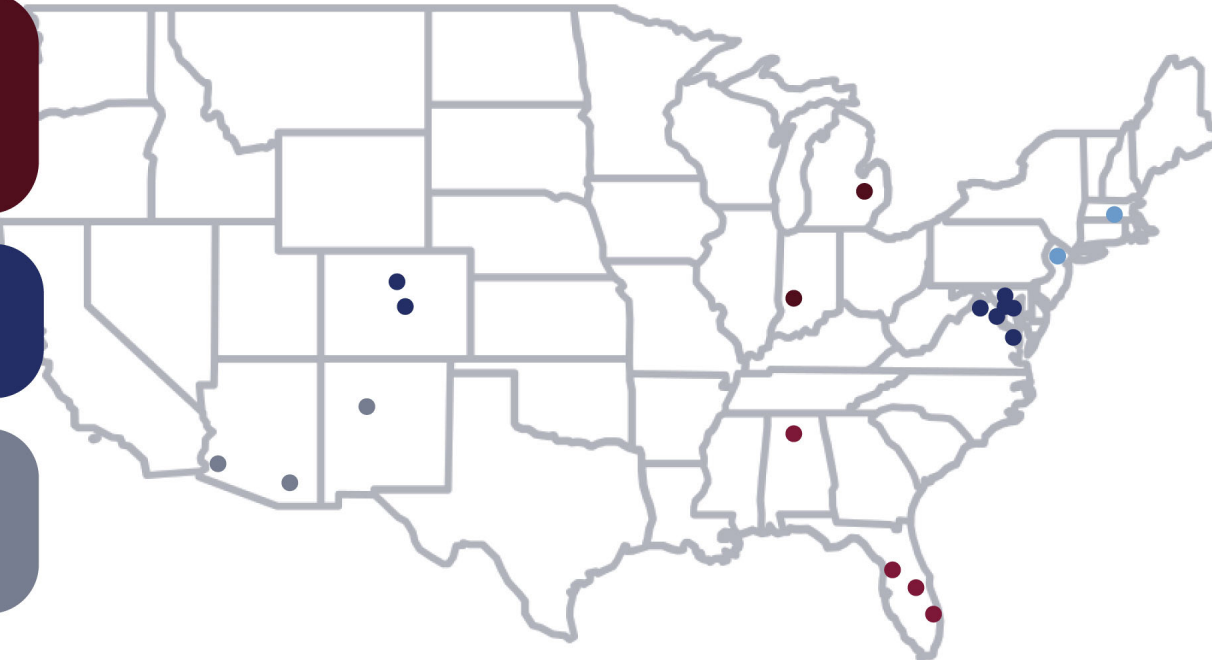


INTERNSHIP PROPOSALS SELECTED: BY GEOGRAPHY

MIDWEST
Crane, IN
Warren, MI

WEST
Colorado Springs, CO
Denver, CO

SOUTHWEST
Albuquerque, NM
Tucson, AZ
Yuma, AZ

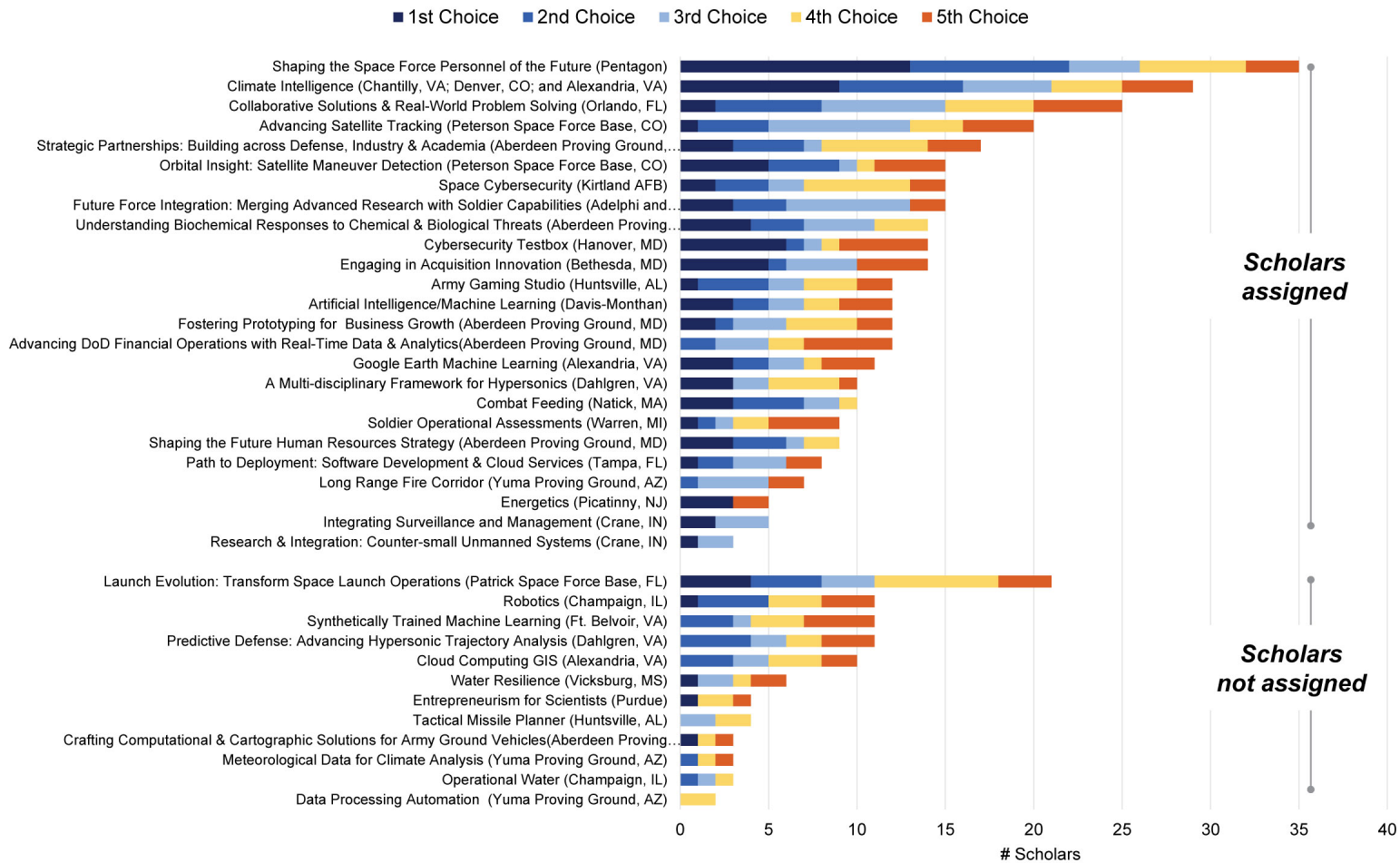


NORTHEAST
Natick, MA
Picatinny, NJ

MID-ATLANTIC
Aberdeen, MD
Adelphi, MD
Alexandria, VA
Dahlgren, VA
West Bethesda, MD

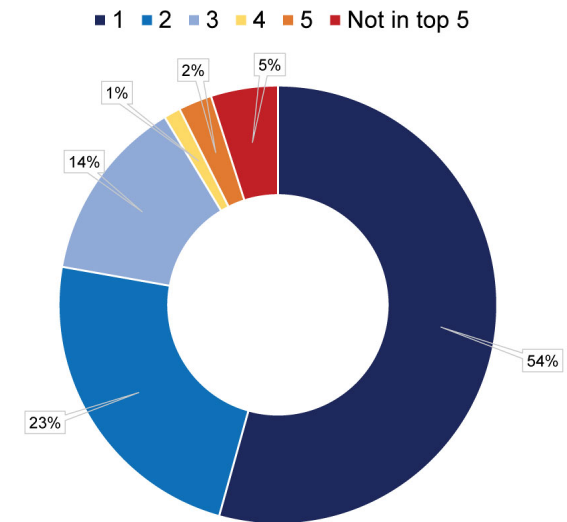
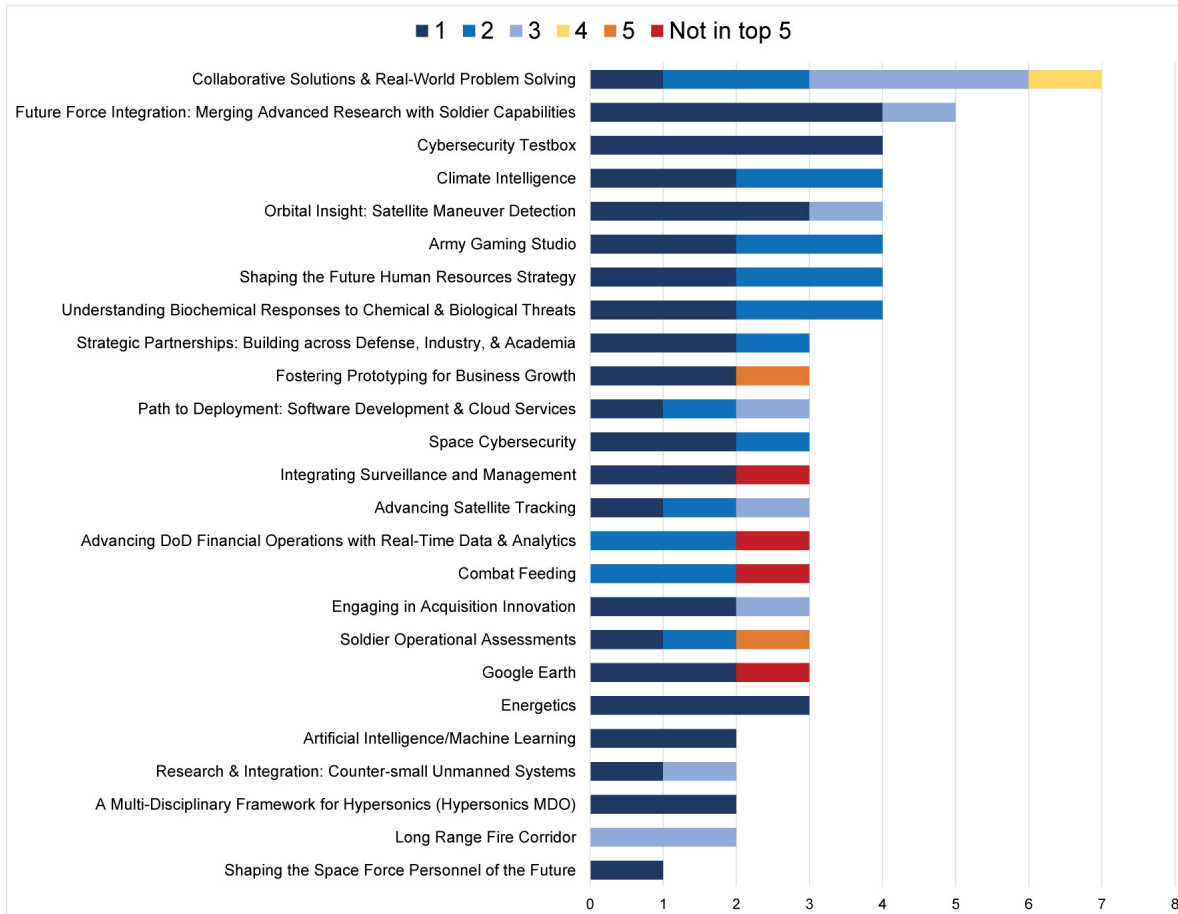
SOUTH
Huntsville, AL
Orlando, FL
Tampa, FL

DCTC Scholar Preferences



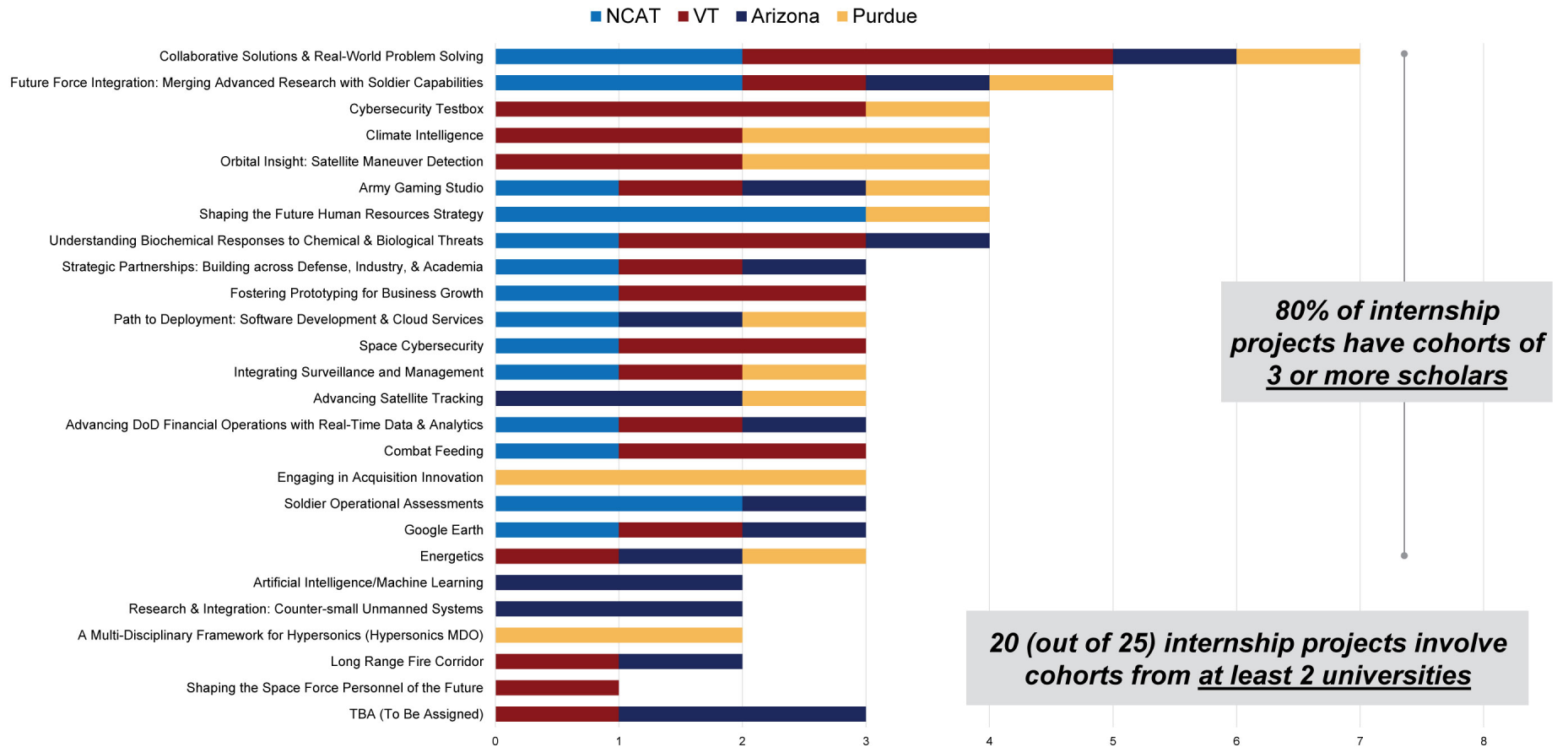
Out of the 87 internship proposals, scholars prioritized 37 projects within their top 5 preferences

Internship Assignments: Scholar Preferences

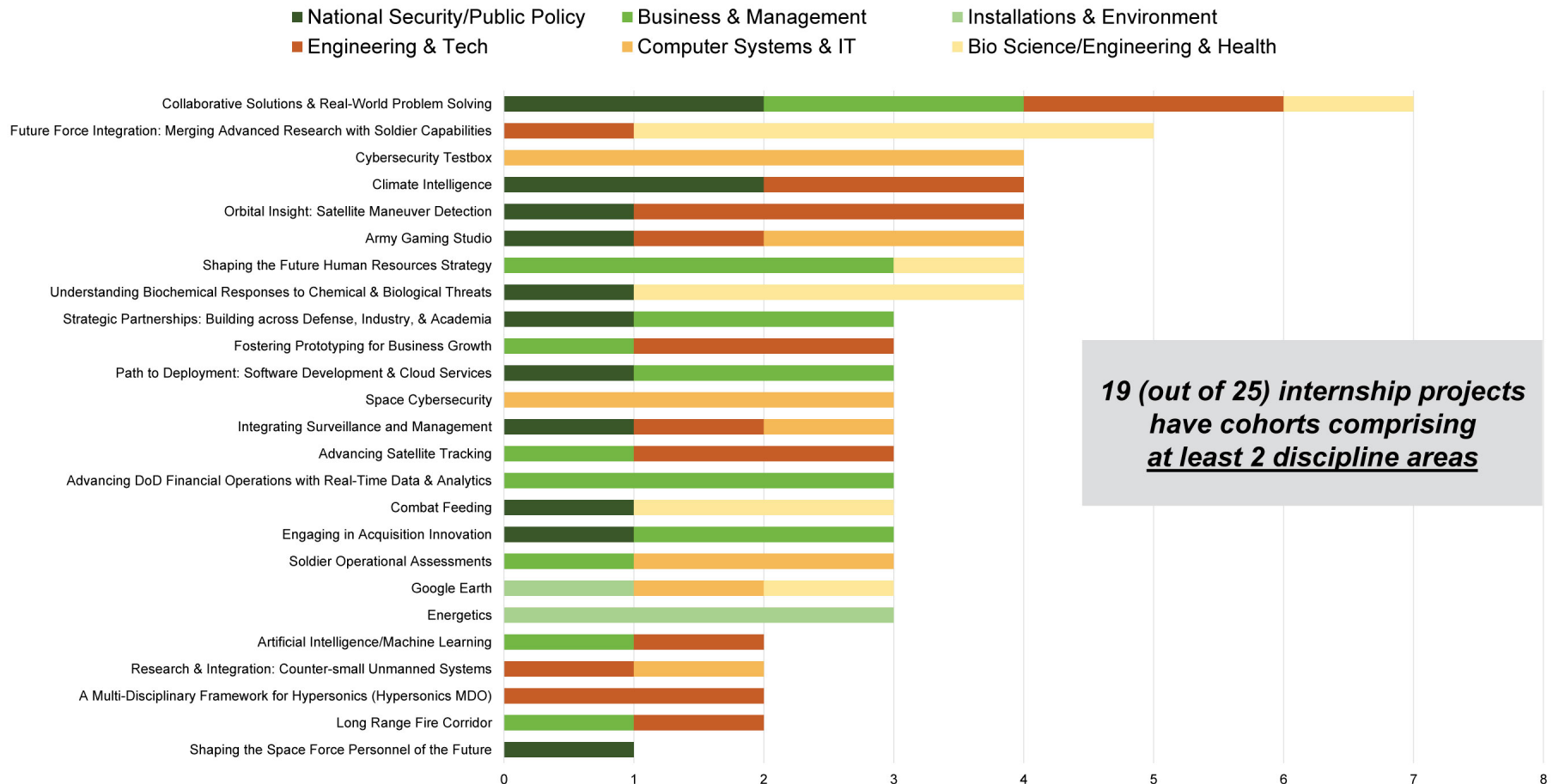


91% of scholars secured one of their top 3 internship choices

Internship Assignments: Multi-University Cohorts



Internship Assignments: Multi-Disciplinary Cohorts



19 (out of 25) internship projects have cohorts comprising at least 2 discipline areas

APPENDIX H. MAPPING OF ASSIGNED SCHOLARS TO PROJECTS

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
A Multi-Disciplinary Framework for Hypersonics (Hypersonics MDO)	Naval Surface Warfare Center - Dahlgren	Ethan	Labianca-Campbell	Purdue	Aeronautical and Astronautical Engineering	Engineering & Tech
		Nicholas	Canovas	Purdue	Aeronautical/Astronautical Engineering	Engineering & Tech
Advancing DoD Financial Operations with Real-Time Data & Analytics	Army DEVCOM HQ G8	Hizikiel	Holloman	NCAT	Business Information Technology	Business & Management
		Max	Davis	Arizona	Finance	Business & Management
		Pualena	Heather	VT	Economics	Business & Management
Advancing Satellite Tracking	USSF Space Operations Command (SpOC)	Brett	Laird	Purdue	Aeronautical and Astronautical Engineering	Engineering & Tech
		Ellie	Wolcott	Arizona	Aerospace Engineering	Engineering & Tech
		Michael	Morales	Arizona	Business Administration and Business Management	Business & Management
Army Gaming Studio	Army DEVCOM Aviation & Missile Center (AvMC)	Aliyah	Terry	NCAT	Computer Engineering	Computer Systems & IT
		Belle	Higginbotham	Purdue	Game Development & Design/ Animation & VFX	Engineering & Tech
		Dalia	Castro	Arizona	Software Engineering	Computer Systems & IT
Artificial Intelligence/ Machine Learning	AFMC 309th AMARG	Marco Antonio	Cortes Esparza	Arizona	Electrical Engineering	Engineering & Tech
		Jacobo	Dabdoub	Arizona	Accounting	Business & Management
		Myriam	Acosta	Arizona	Accounting	Business & Management

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Climate Intelligence	NRO	Chelsea	O'Donnell	Purdue	Mechanical Engineering	Engineering & Tech
		Lindsay	Johnson	VT	Environmental Engineering Geoscience	Engineering & Tech
		Makena	Hersh	Purdue	Political Science	National Security/Public Policy
		Nicholas	McDermott	VT	National Security & Foreign Affairs	National Security/Public Policy
Collaborative Solutions & Real-World Problem Solving	Army PEO STRI	Amaya	Connor	NCAT	Nursing and Health Service Management	Bio Science/Engineering & Health
		Aubrey	DeVries	Purdue	Finance	Business & Management
		Janelle	Anthony	NCAT	Industrial and Systems Engineering	Engineering & Tech
		Jay-Ani	Thomas	VT	Political Science	National Security/Public Policy
		Kianny	Calvo	Arizona	Computer Science and East Asian Studies Double Major	Engineering & Tech
		Maysia	Mateos	VT	Political Science and English (pre-law) Double Major	National Security/Public Policy
		James	Martin	VT	Business Management	Business & Management
Combat Feeding	Army DEVCOM Soldier Center (SC)	April	Sayers	VT	Biological Systems Engineering	Bio Science/Engineering & Health
		Ilea	Wesley	VT	Political Science National Security	National Security/Public Policy

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Cybersecurity Testbox	Army PEO IEW&S	Faith	Jones	VT	Cybersecurity Management & Analytics	Computer Systems & IT
		Jackson	Migala	Purdue	Cybersecurity & Digital Criminology Major	Computer Systems & IT
		Josemari	Roque	VT	Computer Engineering (Networking & Cyber)	Computer Systems & IT
		Kang	Sangmuk	VT	Cybersecurity Mgmt & Analytics and Public Health Double Major	Computer Systems & IT
Energetics	Army DEVCOM Armaments Center (AC)	Abigail	Sneska	VT	Building Construction	Installations & Environment
		Alexander (Richard)	Rios	Arizona	Urban and Regional Development	Installations & Environment
		Jarod	Liwanag	Purdue	Construction Management Technology	Installations & Environment
Engaging in Acquisition Innovation	Naval Surface Warfare Center - Carderock	Anne	Melendez-Talamonti	Purdue	Business (Finance)	Business & Management
		Johnathan	Eberle	Purdue	Finance and Accounting	Business & Management
		Lauren	Unruh	Purdue	Political Science	National Security/Public Policy
		Andrew	Pongratz	Arizona	Philosophy, Politics, Economics & Law	National Security/Public Policy
		Brooke	Griswold	VT	Political Science	National Security/Public Policy
		Ross	Nemeth	Arizona	Political Science and Journalism Double Major	National Security/Public Policy

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Fostering Prototyping for Business Growth	Army DEVCOM C5ISR Center	Jordan	Amarchih	VT	Mechanical Engineering	Engineering & Tech
		Justin	Reid	NCAT	Supply Chain Management	Business & Management
		Jackson	Spires	VT	Mechanical Engineering	Engineering & Tech
Future Force Integration: Merging Advanced Research with Soldier Capabilities	Army DEVCOM Army Research Lab (ARL)	Armand	Destin	Purdue	Biological Engineering	Bio Science/Engineering & Health
		Asia	Walter	NCAT	Biology	Bio Science/Engineering & Health
		Ceili	Olney	Arizona	Neuroscience and Cognitive Science and Psychological Sciences	Bio Science/Engineering & Health
		Cydney	Harris	NCAT	Bioengineering	Bio Science/Engineering & Health
		Lauren	Ruck	VT	Industrial Design	Engineering & Tech
Google Earth	Army Corps of Engineers ERDC	Akira	Jones	Arizona	Biosystems Engineering/ Computer Science Minor	Bio Science/Engineering & Health
		Harshit	Singh	VT	Computational Modeling & Data Analytics Double Major	Computer Systems & IT
Independent Study – Intern with DIA	DIA	Grace	Weisman-Fleischer	Purdue	Mechanical Engineering and Chinese Double Major	Engineering & Tech
Independent Study - Intern with NSWC-Dahlgren	Naval Surface Warfare Center - Dahlgren	Jeffrey	Zheng	VT	Computer Science Secure Computing	Computer Systems & IT
Integrating Surveillance and Management	Naval Surface Warfare Center - Crane	Garrett	Hurst	Purdue	Computer Engineering	Computer Systems & IT
		Kiera	Davenport	NCAT	Electrical Engineering	Engineering & Tech

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Long Range Fire Corridor	Army Test & Evaluation Command (ATEC)	Brooks	Robinson	VT	Aerospace Engineering	Engineering & Tech
		Cameron	Alemant	VT	Political Science	National Security/Public Policy
Orbital Insight: Satellite Maneuver Detection	USSF Space Operations Command (SpOC)	Charlotte	Moss	Purdue	Mechanical Engineering	Engineering & Tech
		Josiah	Kasper	Purdue	Aeronautical/Astronautical Engineering	Engineering & Tech
		Khang	Duong	VT	Mechanical Engineering Major/Computer Science Minor	Engineering & Tech
		Avery	Cowan	VT	National Security & Foreign Affairs and Geography Double Major	National Security/Public Policy
Path to Deployment: Software Development & Cloud Services	SOCOM PEO SDA	Jada	Foote	NCAT	Science Business Information Technology	Business & Management
		Sophie	Glancy	Arizona	Finance	Business & Management
		Jessica	Wrasman	Purdue	Digital Criminology	National Security/Public Policy
Research & Integration: Counter-small Unmanned Systems	Naval Surface Warfare Center - Crane	Ian	Harrell	Arizona	Mechanical Engineering	Engineering & Tech
		Matthew	Colson	Arizona	Software Engineering Major/Mathematics Minor	Computer Systems & IT

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Shaping the Future Human Resources Strategy	Army DEVCOM HQ G1	Alexander	Brown	NCAT	Business Information Technology	Business & Management
		Janese	Reid	NCAT	Business Administration	Business & Management
		Mickelle	Matthew	NCAT	Psychology	Bio Science/Engineering & Health
		Suzy	Meh	Purdue	Human Resource (HR) Development Major/HR Management Minor	Business & Management
		Marley	Williams	NCAT	Landscape Architecture	Installations & Environment
		Jada	Harris	NCAT	Nutrition Science	Bio Science/Engineering & Health
Shaping the Space Force Personnel of the Future	USSF HQ S1	Karina	Gonzalez	VT	Political Science and Economics	National Security/Public Policy
Soldier Operational Assessments	Army DEVCOM Ground Vehicle Systems Center (GVSC)	Alyssa	Durrell	NCAT	Computer Graphics Technology Major (minor in entrepreneurship)	Computer Systems & IT
		Christopher	Karceski	Arizona	Software Eng'g Major/History Minor	Computer Systems & IT
		Tamara	Daye	NCAT	Business Management	Business & Management
Space Cybersecurity	AFMC Air Force Research Lab (AFRL)	Carly	Wolfe	VT	Secure Computing	Computer Systems & IT
		Jalen	Weathers	NCAT	Computer Science Major (with a concentration in cybersecurity)	Computer Systems & IT
		Sidney	Fredericks	VT	Computer Science	Computer Systems & IT

Intern Projects		Scholars				
Project	Organization	Scholar (First Name)	Scholar (Last Name)	University	Field of Study (Major)	DCTC Categorization of Academic Major
Strategic Partnerships: Building across Defense, Industry, & Academia	Army DEVCOM HQ S&T-I	Miles	Durant	NCAT	Business and Supply Chain Management	Business & Management
		Nicholas	Ott	VT	Criminology	National Security/Public Policy
		Owen	Gee	Arizona	Accounting	Business & Management
Understanding Biochemical Responses to Chemical & Biological Threats	Army DEVCOM Chemical Biological Center (CBC)	Aarian	Shaw	NCAT	Criminal Justice	National Security/Public Policy
		Andre	Asarian	VT	Public Health & Political Science Double Major	Bio Science/Engineering & Health
		Katlind	Nearing	Arizona	Veterinary Science Applied Animal Behavior Major/ Biochemistry Minor	Bio Science/Engineering & Health
		Sarah	Hingst	VT	Biochemistry Major/ Entomology Minor	Bio Science/Engineering & Health

APPENDIX I. DOD INTERNSHIP PROJECT FEEDBACK

Security and Access Issues: Multiple feedback highlighted problems with obtaining Common Access Cards (CACs) and security clearances. There were delays and difficulties in getting the necessary access for the interns, although efforts from the base teams to resolve these issues were appreciated. Suggestions were made for the DCTC team to ensure these processes are completed before interns arrive.

Preparation and Project Clarity: Feedback suggests that providing interns with more detailed information about their specific tasks and projects beforehand would help them make more informed decisions about which projects to choose and improve their readiness. This would also aid in aligning projects better with the interns' skills and interests.

Positive Performance and Feedback: Interns were generally perceived as competent, motivated, critical thinkers, and quick learners. Their performance was positively received, with several organizations considering future employment opportunities for them. The scholars' ability to produce valuable work and their professional demeanor were highlighted as strong points.

Program Duration: There were calls for extending the internship duration beyond the current eight weeks. Some feedback indicated that a longer program would allow for a more comprehensive experience and more time to complete meaningful work.

Showcase and Presentation: Suggestions were made to improve the Scholar Showcase, including notifying students about the poster session earlier, providing more interactive opportunities, and addressing issues with travel funding and reimbursement processes.

Placement and Project Fit: There were concerns about the appropriateness of placements, particularly when non-STEM majors were assigned to STEM projects. This issue was noted as a surprise, and while some projects were adjusted to accommodate these mismatches, it highlighted a need for better alignment between interns' backgrounds and project requirements.

Overall Program Experience: The overall feedback was positive, with many expressing satisfaction with the program and its outcomes. There was enthusiasm about future iterations of the program, with suggestions for improvements to enhance the experience and effectiveness.

APPENDIX J. INTERNSHIP VISIT NOTES

11 visits, 14 projects (50%), 56 scholars (66%), ~40 hours of discussion

- 6 Jun, DEVCOM Hq – 12 interns there across 3 projects being sponsored by DEVCOM HQ (HR, Resource Management, and S&T Partnerships)
- 18-19 Jun, PEO STRI – 7 interns on 1 project
- 25 Jun, DEVCOM CBC – 4 interns on 1 project (3 different assignments)
- 25 Jun, DEVCOM C5ISR – 3 interns on 1 project
- 2 Jul, DEVCOM GVSC – 3 interns on 1 project
- 8 Jul, USSF SpoC – 7 interns on 2 projects
- 9 Jul, AFRL – 3 interns on 1 project
- 11 Jul, NRO – 4 interns on 1 project
- 11 Jul, DEVCOM ARL – 5 interns on 1 project
- 15 Jul, PEO IEW&S – 4 interns on 1 project
- 16 Jul, NSWC-Crane – 4 interns on 2 projects

APPENDIX K. LIST OF MEDIA PUBLICATIONS RESULTED

- 13 News Staff. (2023, June 16). *University of Arizona selected to host Defense Department Pilot program*. <https://www.kold.com>. <https://www.kold.com/2023/06/16/university-arizona-selected-host-defense-department-pilot-program/>
- AIRC News. (2024, August 28). *Next generation of civilian defenders takes stage at DCTC Scholar showcase*. The Acquisition Innovation Research Center. <https://acqirc.org/news/next-generation-of-civilian-defenders-takes-stage-at-dctc-scholar-showcase/>
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APPENDIX L. CONFERENCE PRESENTATIONS

NCMA WORLD CONGRESS – July 21-24, 2024 Seattle

Integrating Gaming in Talent Development: The Defense Civilian Training Corps Approach

Speakers: Tory Cuff & Karen Thornton, AIRC
Marsha Berry & Dan Kolenich, Army Game Studio, Huntsville
Dalia Castro, Belle Higginbotham & Aliyah Terry, DCTC Scholars

Join us for an enlightening journey into the Defense Civilian Training Corps (DCTC) initiative, a pioneering approach to recruitment and training for the next generation of ready-to-innovate acquisition professionals. This session will provide details about the two-year program, current DoD partner organizations, and the approach for integrating classroom education with games, interactive exercises, and resilience training complemented by out-of-class immersive experiences and summer internships. Discover how this program is equipping students from diverse majors with comprehensive acquisition knowledge through a multidisciplinary, cohort-based approach. Participants will get to play and provide feedback on the latest version of the interactive DCTC Acquisition Game and hear from students interning at the Army Gaming Studio as they work to translate the board game version into a more dynamic video game for expanded use across DoD. Audience members from DoD organizations will learn how to become a DCTC strategic partner.

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