What is the Marine Corps PhD-Technical Program?

Increasing needed talent

by PhD-Technical Marines

The call for more technically astute Marines continues to reverberate through numerous Service-level guidance documents with no sign of abating. From *Talent Management 2030* to Service journals calling for increased technical talent, such policies and articles emphasize the increasingly technical nature of warfare and the parallel need for an educated cadre of technically proficient Marines.[1] Other DOD guidance documents such as the *FY2023 National Defense Authorization Act* have also called for the Services to further educate their existing forces that possess technical skills.[2] The Marine Corps has been at the forefront of placing officers in key billets requiring advanced technical education for a number of years through institutions such as the Naval Postgraduate School. Still, senior leaders recognize the need for education beyond the masters-level.

Approximately eight years ago, the Marine Corps embarked on its first-ever program for developing Marine PhDs. However, there has been little to nothing published since then on how such Marines are employed in service to the Marine Corps. To shed some light on this program, this article provides a more comprehensive understanding of the program and its objectives, including background on the genesis of the PhD programs. The authors focus particular attention on the PhD-Technical Program (PhDP-T) to help raise awareness and interest among Marines who may wish to pursue a PhD while also informing more senior leaders who may be unfamiliar with the program. Additionally, this article outlines what Marine PhDs provide to the Marine Corps. While Marines with PhDs have their own specific skillset and area of expertise, they nonetheless bring a more generalized skillset as researchers that can help address several Marine Corps challenges and better support a more technologically enabled Marine Corps.

Background

In 2016, the Commandant (CMC), Gen Robert Neller, tasked Marine Corps University to investigate the feasibility of establishing a Doctor of Philosophy program to "develop a cohort of strategic thinkers and leaders for service at senior levels of command and staff."[3] Subsequently, a Marine Requirements Oversight Council (MROC) memorandum was signed by the Assistant CMC, which approved the establishment of a pilot CMC Strategist Program (CMCSP). In the first year of implementation, two Marines were selected to participate in the CMCSP.[4] However, in between the advent of the CMCSP and when the first PhD students matriculated, the Operations Analysis Directorate (OAD) under Combat Development and Integration (CD&I) proposed a parallel plan to expand the pilot program to include Marines who would pursue a technical PhD starting in the academic year 2018. Since then, the Marine Corps has selected two Marines a year to participate in each PhD program. Then, in 2021, the Marine Corps published *MCO 1524.2, Marine Corps Doctor of Philosophy Program (PHDP),* which codified the programs more formally.[5] The publishing of *MCO 1524.2* thus took the program from a pilot phase to a regular educational program to provide the Marine Corps with a new capability.

What Capability Does Marine PhDs Provide?

What does this new PhD capability provide the Marine Corps? The CMCSP and the PhDP-T reinforce and complement each other by providing the Marine Corps a cadre of strategic thinkers and technical leaders that can:

- Provide highly skilled and experienced, deployable manpower in support of senior leader decision making.
- Assist in developing defense and Sea Service strategies informed by the latest scholarship.
- Inform long-range concept and capability areas that are threat-informed and mindful of the current state-of-the-art technologies.
- Lead independent research in support of senior leader inquiries and organizational learning demands.
- Leverage their networks of Service, academic, and industry points of contact to address difficult challenges.
- Perform holistic organizational and operational assessments through qualitative and quantitative analysis.
- Provide additional frameworks for improving organizational performance that go beyond standard military decision making and planning processes.

While this list is not exhaustive, it does provide several of the highest-level capabilities Marine PhDs provide the Marine Corps. Moreover, Marine PhDs across several different disciplines can form the core of an interdisciplinary research team for addressing immediate

and difficult Marine Corps challenges. These capabilities are backed up by the rigorous application and selection process.

How Are PhDs Selected?

The process of selection is commensurate with the previous *Commandant's Planning Guidance,* which stated, "Upward growth and mobility must favor the most talented within our ranks while facilitating the identification of those with a special aptitude as instructors, educators, commanders, staff officers, mentors, or with special technical skills."[6] Annually, a solicitation MARADMIN is released in the late spring of each calendar year. Interested Marines submit a comprehensive application package that includes Graduate Record Exam results, a personal essay, academic transcripts, and letters of recommendation from professors and scholars who hold a PhD and can speak to the applicant's ability to complete a PhD program. Applicants may also be subject to an interview process to learn more about their background, long-term interests, and what they believe a PhD will allow them to accomplish. A thorough screening of the applications is completed to separate candidates into categories of highly qualified, qualified, and not qualified. The board screens the applicant's entire military record as well. The board then selects the best and fully qualified captains (career designated), majors, and lieutenant colonels to participate in these PhD programs. PhDP-T disciplines considered include but are not limited to Space Systems Engineering, Electrical Engineering, Computer Science, Information Sciences, Mechanical Engineering, Modeling Virtual Environments and Simulation, and Operations Research. Officers indicate their desired course of study in the application process, but the final selection is determined based on the needs of the Marine Corps. *MCO 1524.2* and the latest MARADMIN provide detailed direction for the selection and education phases. Each technical PhD also incurs a six-year service obligation upon the completion of the dissertation to help maximize the Marine Corps' return on investment.

What Are Technical PhDs?

Technical PhDs are Marine officers with occupational skills, operational experience, and impeccable Service records. They are also researchers with knowledge in their discipline and dissertation-specific expertise. Individually, technical PhDs are not interchangeable pieces, per se, but each can perform several more general research functions:

- PhDs can lead original and independent research efforts to generate new knowledge. They can also lead teams of researchers to help answer learning demands or important questions requiring significant investigation and data collection.
- PhDs are question-askers who leverage their ability to ask the questions necessary to uncover underlying assumptions, expose bias, and develop ways to produce knowledge that can lead to testable hypotheses and subsequent solutions.
- PhDs are multidisciplinary problem solvers who understand the inherent limitations of any single methodological or operational lens. They consider questions and problems with a wide breadth of perspectives and develop multi-disciplinary and systematic approaches to solving them.
- Marines with a PhD can traverse the boundaries of technical, scientific, and operational understanding. As Marines, they understand Marine Corps issues and problems on multiple levels. As PhDs, they can engage in technical and scientific pursuits, allowing them to lead efforts encompassing both technical and scientific domains while bringing to bear diverse operational backgrounds.

The diversity of the technical PhDs' capabilities allow them to be employed independently or collectively, providing the Service with significant problem-solving breadth and depth. To achieve this, the PhD program developed a flexible employment model to help maximize their value to the Marine Corps.

The Dynamic Employment Model

The need for a PhD-T program began with senior leaders identifying a clearly recognizable but ill-defined gap. When the program first began, Marines attending school were simultaneously developing potential billets during their education phase. To better oversee the placement process of PhDP-Ts, the 38th CMC, Gen David Berger, also directed that the initial PhDP-T graduates report to CD&I to support *Force Design 2030* and associated activities. All Marine PhDs were initially sent to the center of gravity for Force Design efforts and became the core of a Force Design Research Group (FDRG). The first graduates of the PhD-T program who made up the core of the FDRG brought the billets to fruition. While this process can register as backward from first clearly defining the requirement, program leadership was forward-thinking enough to see that the significant and rapid development of technologies required Marines with a PhD. However, the FDRG also recognized that having dedicated billets could potentially constrain where PhDP-Ts were employed. To rectify this conceivable shortcoming, a dynamic employment model (DEM) was proposed.

Marines with PhDs tied to specific billets for set periods can constrain the employment of such a capability. With this in mind, the FDRG under CD&I created the DEM. The DEM provides an enterprise capability that dynamically and flexibly employs PhD-Ts in support of CD&I and Service-level problems. The DEM is also motivated by two other ideas: The Marine Corps faces challenges that are complex, integrated, and broad requiring solutions to incorporate multiple diverse skill sets. The DEM provides a way for technical PhDs to task-organize against immediate and longer-term CD&I and Service problems. The DEM provides an opportunity for technical PhDs to cultivate relationships across the Service, Joint Force, and DOD/Interagency enterprise to leverage support to CD&I and Service-level efforts.

In the DEM, technical PhDs maintain a portfolio of immediate and longer-term CD&I and Service issues against which they are aligned. While several technical PhDs maintain a place in OAD/CD&I, others work primarily outside of OAD/CD&I to leverage their unique skills against Marine Corps

problems at the Joint level. Still, the purpose of the CD&I connection is to ensure technical PhDs maintain contact with the primary capability developers and integrators and the larger ongoing Force Design efforts. For activities outside of CD&I, OAD endorses a memorandum of agreement to allow a Marine PhD to work for a period of up to twelve months. A memorandum of agreement allows the Marine PhD to explore an outside assignment but not fully commit in the event the assignment does not entail the most efficacious use of a PhD. Currently, through the DEM process, Marine PhDs are actioning major efforts such as Training and Education Command's Project Tripoli; building out the capabilities of the Marine Corps Wargaming and Analysis Center; overseeing and directing multi-million dollar efforts at the Office of the Undersecretary of Defense-Research and Engineering FutureG Office; staffing the CMC's Office of Net Assessment; overseeing the Intelligent Robotics and Autonomous Systems Office; actioning DOD-level initiatives within the Chief Data and Artificial Intelligence Office; leading Headquarters Marine Corps organizational assessments at the Deputy Commandant level; contributing to activities that will lead to CD&I Next; overseeing the Campaign of Learning; participating as an innovation fellow for the Defense Advanced Research Projects Agency—and much more. Information across the cohort of all PhD-Ts is shared quarterly to build better awareness of challenges and opportunities across the DOD enterprise, which can better inform Service-specific efforts and activities.

What Is the Way Ahead for the Technical PhD Program?

The stresses of Force Design, in addition to enduring responsibilities and organizational changes, have tended to direct some of the technical PhD bandwidth to address current and near-term shortfalls and challenges. Moreover, PhD-Ts also must help administer many of the behind-the-scenes activities that are necessary to make the program successful (e.g., new PMOS creation, PhD force structure, board selection). However, employment by CD&I and exposure created by the DEM have proven an invaluable learning experience about the organizations, people, and processes that make up Headquarters Marine Corps to help better understand wider Service issues. Moreover, PhD placement in CD&I has informed a better approach to answering the CMC's *Force Design Annual Update* from 2021, Directed Action Task T: "Establish a long-range planning capability using our PhD program Marines and others to better understand anticipated technologies, requirements, and resources and how they may impact force development."[7] To partially answer Task T, a table of organization and equipment change request was submitted and approved in the February 2022 Authorized Strength Report to establish a protected unit identification code creating fifteen billet identification codes (BIC) within CD&I as the FDRG. Currently, eleven BICs are active with ten total PhDP-T graduates (as of June 2025). Additional BICs will be bought in future Authorized Strength Reports as technical PhDs graduate from the program. Presently, the PhDP-T program is working to update the MOS manual to include the primary MOS 8890.[8]

Conclusion

If successful, the Marine Corps PhDP-T will have an outsized impact on the future of the Marine Corps. Marine PhDs have a unique skill set that can complement and accentuate the skills of the teams they augment. By bringing technical expertise, general research skills, and networks of expertise, Marine PhD-Ts provide an exquisite capability to help senior leaders tackle difficult problems. Further, Marine PhDs are relentlessly committed to improving Marine Corps warfighting capability and capacity.

The development of the Marine Corps PhD program will continue to evolve as its graduates begin permeating the institution and outside organizations. The *Planning Guidance* of the 39th CMC, Gen Smith, states, "I understand that the challenges we face are complex, layered, and multifaceted, requiring flexible solutions."[9] The Marine Corps PhD programs are part of the solution to this call. The PhD program is still in its nascent stages of development and growth. Time, and more importantly—warfare itself, will tell if it is having the desired effects.

Notes

1. David McGee, "The Marine Corps' Technical Skill and Leadership Divergence," *USNI Proceedings,* April 2021, https://www.usni.org/magazines/proceedings/2021/april/marine-corps-technical-skill-and-leadership-divergence; and Scott Humr and Emily Hastings, "New Wine in Old Wine Skins: Marine Corps Technical Talent Requires a New Approach," *Marine Corps Gazette* 108, No. 6, (2024).

2. House of Representatives, *National Defense Authorization Act 2023* (Washington, DC: 2023).

3. Headquarters Marine Corps, *MARADMIN 453/16, Announcement of and Solication of Applications for the Commandant of the Marine Corps Doctor of Philosophy (PhD) Strategist Program (CMCSP)* (Washington, DC: 2016).

4. Memorandum for Marine Requirements Oversight Council (MROC) subject: 5 May 2016 Commandant of the Marine Corps Approval of the Pilot for the CMC Strategist Program dated 22 August 2016.

5. Headquarters Marine Corps, *MARADMIN 627/17* (Washington, DC: 2016).

6. Headquarters Marine Corps, *MCO 1524.2 Marine Corps Doctor of Philosophy Program* (Washington, DC: 2021).

7. Gen David H. Berger, *38th Commandant's Planning Guidance* (Washington, DC: 2019).

8. Headquarters Marine Corps, *MARADMIN 423/24, Out Of Cycle Inclusion Of New 8890 Military Occupational Specialty In The Fiscal Year 2025 Military Occupational Specialty Manual* (Washington, DC: 2024).

9. Gen Eric M. Smith, *39th Commandant's Planning Guidance* (Washington, DC: 2024).