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DCS/Logistics, Engineering & Force Protection
Directorate of Civil Engineers

CFETP 0801, 0808
0810, 0819, 0830, 0850
Parts I and II
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Job Series 0801, 0808, 0810, 0819, 0830 and 0850

ENGINEER/ARCHITECT

CFETP

CAREER FIELD EDUCATION AND TRAINING PLAN

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Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive document identifying the life-cycle education and training requirements for the Department of the Air Force's Engineer and Architect career fields. At the direction of the Civil Engineer (CE) Functional Advisory Council (FAC), the career field's senior leaders developed this plan to chart a deliberate, comprehensive career path for Engineers and Architects. Our Civil Engineer squadrons function as the public works departments for our installations; this plan ensures the engineers and architects leading and executing that complex mission possess the deep technical expertise required to support Air Force priorities and project combat power from resilient bases.
2. The primary purpose of this CFETP is to implement a formal, competency-based development model, shifting our focus from time-based training to demonstrated proficiency. As outlined in DAFMAN 36-2689, *Force Development*, this plan provides the foundation for a robust competency program that clearly defines the path from Foundational to Practitioner and ultimately to Expert. This framework ensures our training is targeted, efficient, and directly supports the development of a technically superior force ready to solve future challenges.
3. This CFETP is the 'go-to' document for all Total Force stakeholders involved in the training, education, and development of our engineers and architects. It is a critical tool for individuals to plan their careers, for supervisors to guide their Airmen, and for formal training providers to build and refine curriculum based on career field requirements. This document serves as a roadmap for career field training.
4. The ultimate goal of this plan is to forge a generation of world-class technical experts capable of solving the most complex engineering problems. The competencies defined herein, which the CE FAC has directed our Airmen to grow, are the building blocks of that expertise and will be integrated into the Air Force talent management system. Your commitment to this path of continuous learning and technical mastery is paramount. Your dedication will ensure our Civil Engineer community continues to provide the innovative and resilient installations our Air Force requires to fly, fight, and win.
5. The CE Civilian Career Field Playbook contains information relevant to the entire CE Career Field (**HERE**). Information includes but is not limited to the Civilian Tuition Assistance Program (CTAP), centrally managed positions, vectoring, Civilian Development (CD) programs, Key Career Positions (KCPs), Civilian Strategic Leadership Program (CSLP), Career Broadening (CB), Functional Advisory Council (FAC), Development Team (DT), and Force Renewal Programs.

Part I – Career Field Information

Section A: General Information

1. Purpose. AF/A4C and our enterprise leaders throughout the Total Force are all committed to ensuring that our Engineers and Architects have the depth, breadth, knowledge and capabilities they need to successfully serve our CE Enterprise and our Air and Space Forces.

1.1 This CFETP provides a consolidated framework for managers, supervisors, Engineers, and Architects to plan, develop, manage, and conduct an effective and efficient development program. This plan:

1.1.1 Identifies requirements and typical job duties for each phase of an Engineer or Architect's career.

1.1.2 Provides occupational tasks and competencies to enable Engineers and Architects, their supervisors, and mentors to jointly build a personalized career path to success.

1.1.3 Communicates the career development opportunities available to Engineers and Architects and offers recommendations for advancement in the profession of DAF engineering to recruit and retain Engineers and Architects.

1.1.4 Outlines the education and training available to Engineers and Architects and provides references to training courses, training materials, and other useful career resources to develop DAF Engineers and Architects.

1.1.5 Provides information about required, highly recommended and recommend training for Engineers and Architects and acquisition coded positions to develop DAF Engineers and Architects.

1.1.6 Provides information about training available to installation senior leaders, mentors, and supervisors of Engineers and Architects to develop DAF Engineers and Architects.

2. Use. This plan should be used by engineering supervisors at all levels to ensure comprehensive and cohesive training and development programs are available for each individual working as an Engineer or Architect. Individuals should review career goals and progression with supervisors and mentors during scheduled performance feedback and mentoring sessions.

2.1 Supervisors and work center managers should ensure their training programs complement the CFETP competency and proficiency level requirements. On-the-job training (OJT), resident training, and contract training or exportable courses can enhance identified requirements.

2.2 Everyone should aim to complete the applicable competency and proficiency level requirements specified in this plan. The list of courses in Part 1, Section C is used as a reference to support and enhance training and development requirements. Additional learning opportunities are outlined in Part 2, Section D.

3. Coordination and Approval. The Engineer and Architect SMEs are the approval authority. These SMEs will initiate an annual review of this document to ensure currency and accuracy. Senior leaders within the Civil Engineer community (AFCEC/CF and AF/A4CF) will identify and coordinate on the career field training and development requirements.

4. Career Progression Information

Career progression can vary substantially for Engineers and Architects due to a variety of factors including personal goals, availability of positions at an installation, geographic mobility, professional certification, training, and continuing education. Within the first five to ten years, career goals should start to solidify and align with serving in an enterprise leadership or SME functional role, and establish the echelon or level of the CE enterprise that best meets their goals. For example, a goal to become a senior leader will drive career and education decisions differently than a goal to be a SME in a specific Engineering/Architect discipline or program.

The intent of the CFETP is to focus the traditional Engineer/Architect on what they need to do to be successful in their current role, and what they should do to achieve their career aspirations. In some cases, an Engineer/Architect may not be geographically mobile, may enjoy the work they are doing at the installation level, and may not want to relocate to other installations. In this case, the CFETP can still assist with career development, as both leadership and key advisory opportunities exist at the base level. The ultimate goal of the CFETP is to meet the mission requirements across the full spectrum of the CE enterprise.

There is no single, optimal career path to ensure career success. A successful career path includes steady growth in job responsibility and professional development with a broad variety of experience. Periodically, personal situations should be reviewed, as well as the organization's needs, in order to periodically reassess career path goals. Consider personal strengths, weaknesses, training or experience gaps, commitment to the organization's mission, and short and long-term goals. Organizationally, consider the organization's needs, training resources, position availability, and promotion opportunities. How well an Engineer/Architect performs in his/her current position is the most important factor in determining future success.

5. DAF Enterprise Career Building Blocks

The structure of the Engineer and Architect workforce is described with Career Building Blocks (CBBs), which rises from a broad base of installation level experiences to a GS-15 leadership role that can then open a path to potentially serve at the Senior Executive Service (SES) level or to serve as a GS-14 SME. The DAF CBBs (Figures 1 and 2) show appropriate positions for various stages of the Engineer/Architect's career, available at each level of the CE enterprise: base, intermediate, and headquarters. Within each development level, the CBB recommends opportunities from the GS-11/12 to the GS-15 leadership track or GS-14 SME track. Progression through these three levels allows Engineers/Architects to obtain depth and breadth of experience required to lead at the higher levels of the CE enterprise. However, engineering professionals should not assume quick advancement between GS levels within the three levels of the CE enterprise is the norm. Instead, it is expected that a significant part of the early career will focus on obtaining depth and breadth of experience by holding multiple, various positions within an installation at the base and intermediate levels of the CE enterprise; mobility to other installations may be required to broaden experiences outlined on the CBB, due to limited vacancies or size of the unit. Engineers/Architects will typically gain their initial experience at the base level and may not formalize long-range goals or what track to follow until they reach the intermediate level of their career.

5.1. Base Level. These are base-level positions, with training and education orientated towards meeting basic requirements of the engineering occupational series, concentrating not only on development of technical skills, but effective writing and briefing skills as well. The Engineer/Architect should pursue professional licensing/registration. Typically, these are developmental positions for recent graduates with a target grade of GS-12.

- Project management and execution to include design, cost estimates, specification development, and construction management
- Portfolio management to include planning, program development and energy management
- Operations engineering to include developing requirements and optimization through asset management plans
- Environmental engineering overseeing compliance and/or restoration programs
- Project Programming as described in appendix F

5.2. Base and Intermediate Level. The Engineer/Architect must be competent in the management of resources and direction of planning, design management, and post construction management of facilities. Training and education are focused on preparing the employee to transition into leadership or more complex technical positions at the base, AFIMSC, AFCEC, or at a MAJCOM. Intermediate level positions include advisory roles as an SMS in each base level Engineer/Architect occupational series or entry level supervisors in the environmental, portfolio optimization, project management, and operations engineering elements.

- Deputy Base Civil Engineer
- Engineering (must be a registered PE), and Operations Flight Chiefs
- SME or division chief at MAJCOM or AFCEC
- Element Chief in the portfolio management, project execution, operations engineering, or environmental sections at the base level
- The Engineer/Architect should be professionally licensed/registered

5.3. Headquarters. These are normally complex AFCEC, AFIMSC, HQ AFRC, HQ NGB, or HAF positions. These employees represent the DAF in managing engineering resources and human capital engaged in the formulation of strategic policies, plans, and programs that may involve other services, DoW, and the secretariat. Training and education at this level are focused on further developing staff-level skills in support of installation engineering programs and human capital; and developing executive and managerial abilities.

- Branch or Directorate Chiefs at AFCEC, AFIMSC, HQ AFRC, or HQ NGB
- Division Chief at HAF (Director of Air Force Civil Engineers)

Management of the Engineer/Architect's career beginning at the installation level will provide the broad level of experiences necessary to compete for positions at the intermediate and headquarters levels plus make individuals more competitive for leadership positions of increasing responsibility later in their career. A career path could consider moving to positions at different levels of the CE enterprise, as well as between service components, such as moving from the installation level to the intermediate level, then back to the installation level, then to the strategic level, then back to the installation level, in order to remain in touch with current issues facing CEs at the tactical level. Experiencing a broad variety of positions, both leadership and non-leadership, best prepares potential candidates to hold an Engineer/Architect SME position and senior leadership positions in the CE enterprise.

5.4. AFCEC Planning Subject Matter Experts (SMEs) operate at the intermediate and headquarters level, but integrate engineering and architecture related activities across the DAF enterprise. Engineers/Architects can expect to work at this level later in their career.

Figure 1 Department of the Air Force Engineer/Architect Leader Career Building Blocks

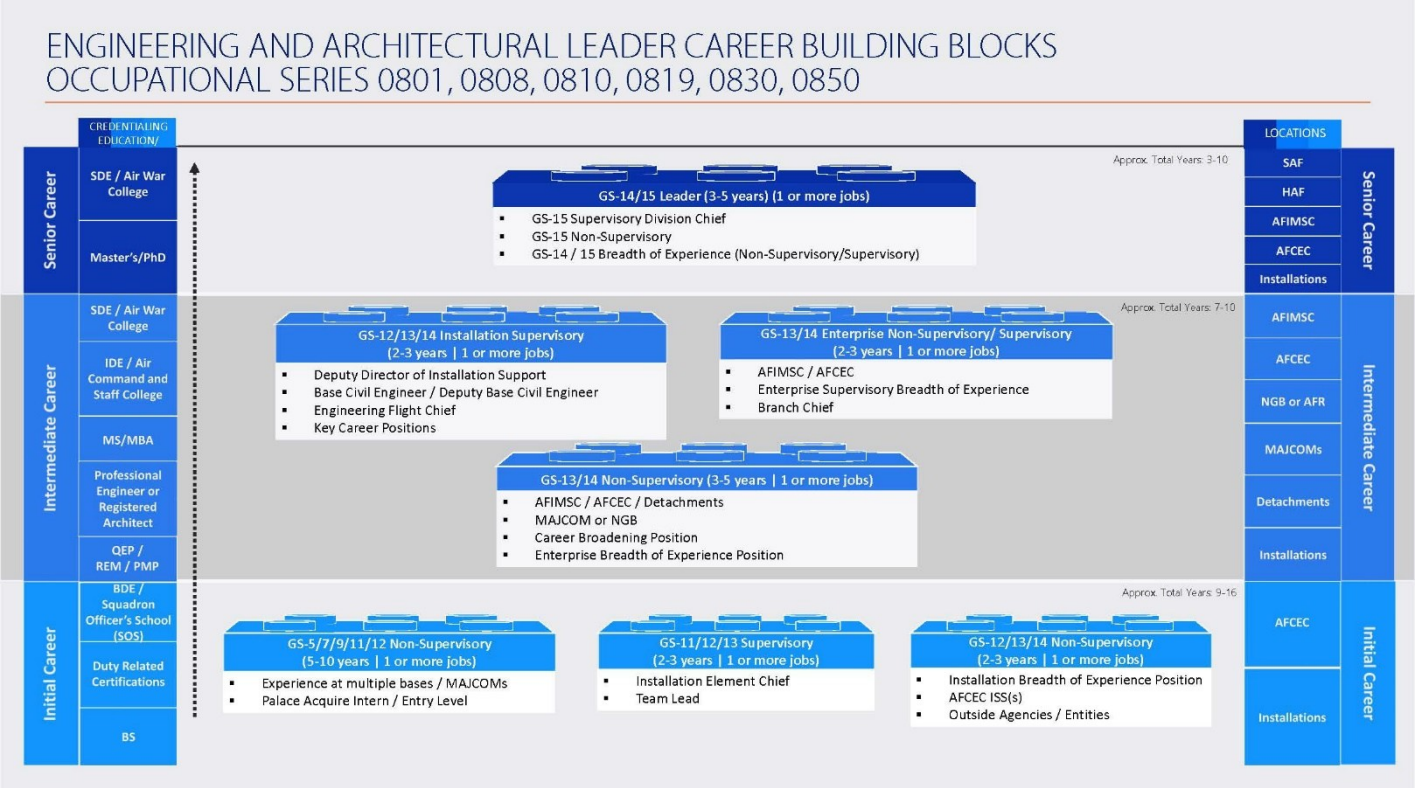
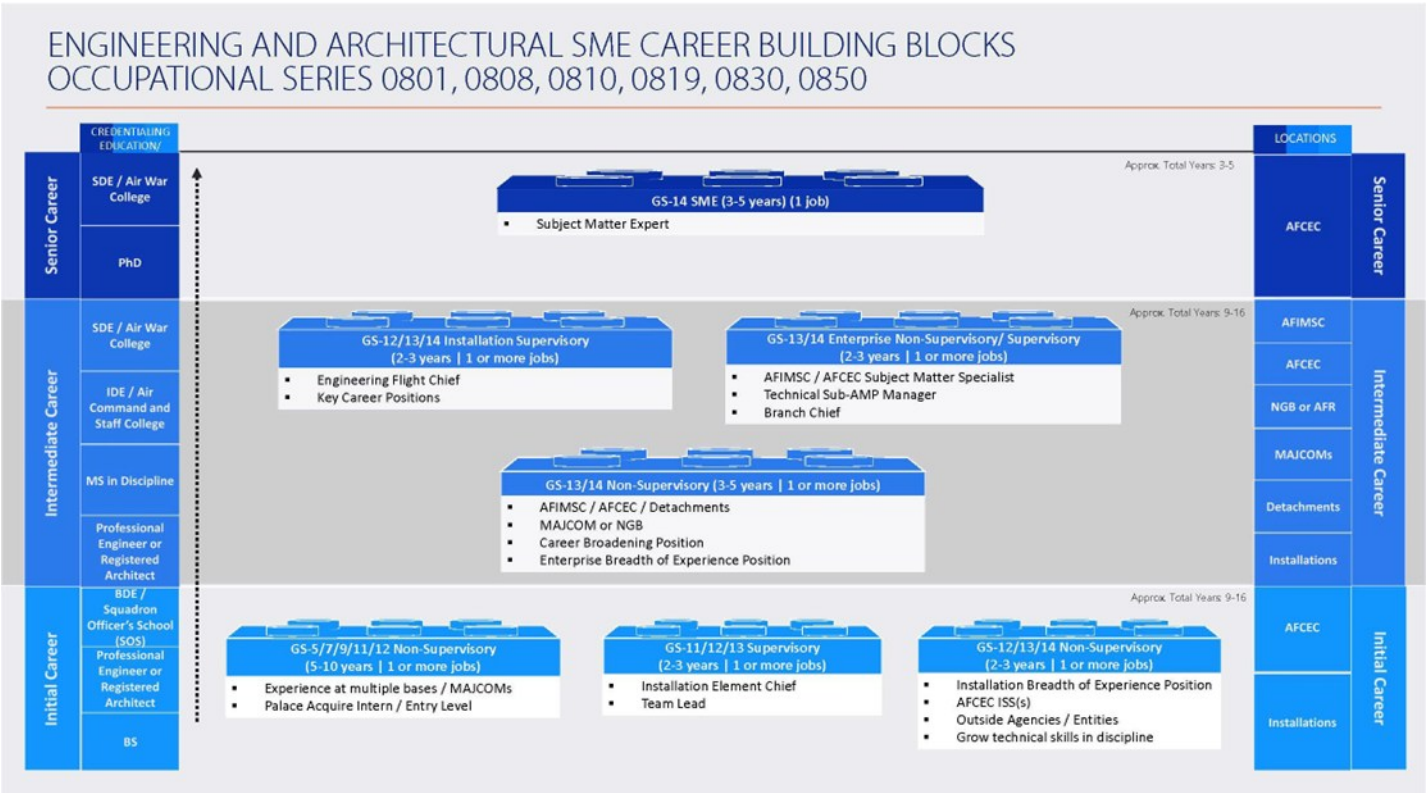


Figure 2 Department Of The Air Force Engineer/Architect SME Career Building Blocks



6. MyVector

The MyVector site provides numerous resources for Engineers/Architects. Information is available on the site related to Mentoring, Career Planning and Knowledge sharing. The Mentoring section of MyVector can be used to fine tune career goals, experience and plans. A mentor search capability is available, where Engineers/Architects can search for a mentor by profile details or make a by-name request for a mentor. MyVector also allows for knowledge sharing through forum-based discussion groups.

MyVector also includes a number of training resources. The site includes an "Air Force Competencies" section that includes a competencies self-assessment function and related resources. The competencies include the traditional ones such as developing self and developing others, but also include emerging topics such as "Digital Literacy". Based on the results of the self-assessment, the platform includes a "Competency Improvement Plan" with suggested videos, books, courses, and/or articles that can help improve that focus area. The courses recommended are linked to the Air Force e-Learning site (**HERE**) and are available online/for free.

One way for an Engineer/Architect to determine a desired career path is to go through the Career Development Plan process known as "vectoring." The CE Career Field Team (CECFT) manages the process with an annual call, which typically goes out each fall. While the vectoring cycle is annual, with even numbered grades being during even years and odd numbered grades during odd years. The vectoring process will assist an Engineer/Architect with identifying educational, professional, or experiential gaps or needs in their career experience, and get valuable feedback from CE senior leaders on steps to successfully achieve their plan. It is not a promise of a promotion or a commitment to move, but an opportunity to gain insight on how to achieve career goals, which could include: what jobs to seek, professional registration, career program choices, PME, or Civilian Development (CD) recommendations. Engineers/Architects should consider updating their Career Brief on MyVector, and explore PME and CD options on the site. Note that MyVector is used to register for vectoring as well as serves as the hub for Engineers/Architects to self-nominate for PME and CD. The nomination process for these programs usually occurs in the winter. Access MyVector (**HERE**).

7. Individual Development Plan

An Individual Development Plan (IDP) will help lay out long-term professional career goals, and identify knowledge, skills, and abilities needed to meet those goals, as well as, developmental assignments, positions, training, and activities, which will assist a supervisor to help you reach those goals. There are a variety of resources available online to develop an IDP. More information about IDPs is available in DAFMAN (36-142, Civilian Career Field Management and Centrally Managed Programs, Section 4.2). The CE CFT recommends use of MyVector to develop IDPs. MyVector is also used for career development opportunities. For example, applicants who apply for CD submit their applications through MyVector to obtain supervisor review and endorsement of their applications.

8. Breadth of Experience

8.1. Experiencing a wide variety of civil engineer roles, beginning within the CE Squadron or Group at the installation level is an important part of gaining depth and breadth of experience, knowledge and capabilities. It is recommended to obtain a diversity of experience at more than one installation falling under different MAJCOMs or components to include varied assignments.

8.2. Engineers/Architects should plan to hold an installation level position at the target grade for three to five years prior to holding a base level leadership position. Obtaining experience as an installation supervisor, such as an Element Chief, and then Flight Chief at the early stages of a career is essential to ensure competitiveness to advance to an intermediate or

headquarters level leadership position later in the career. Part II, Section C, lists supervisor positions that are available within the Civil Engineer community at the installation level. By at least interim-career (10-15 years into the Engineers/Architects' career), the individual should have an idea of their long-term career goal. Engineers/Architects at each level should focus on enhancing competencies needed for their current position and developing competencies for the next stop on their career roadmap (see Part I, Section C). Many Engineer/Architect positions require a Secret clearance level; this determination is made at each installation. However, an Engineer/Architect should be able to obtain a Secret clearance in order to be competitive for positions later in their career.

8.3. After holding installation level non-supervisory and supervisory roles, an Engineer/Architect may wish to advance to a higher level of installation leadership or gain experience by holding an intermediate level supervisory position. Positions can be held with the Air Force Installation and Mission Support Center (AFIMSC), with the Air Force Civil Engineer Center (AFCEC), with a Major Command (MAJCOM) or with the Reserve Component. An Engineer/Architect operating at the intermediate level should be a technical expert familiar with installation operations prior to moving to the Interim HQ level.

8.4. Senior Career Enterprise Leader Opportunities. After holding a higher-level installation supervisory role or a role at the Interim HQ, an Engineer/Architect may wish to gain experience by holding a Supervisory or Non-Supervisory position at the Interim HQ or at SAF or HAF. Generally, individuals working at SAF/HAF should have more than 10 years of experience, preferably at the interim headquarters and installation level. Individuals compete more competitively for SAF/HAF positions if they have completed appropriate PME and have a Master's degree and certifications appropriate for the educational background.

8.5. Senior Career Enterprise Leader Opportunities. After holding a higher-level installation supervisory role or a role at intermediate level, an Engineer/Architect may wish to gain experience by holding an intermediate level supervisory or HQ level non-supervisory position. Generally, individuals working at these positions should have more than 10 years of experience, preferably at the intermediate level and installation level. Individuals compete more competitively for HAF positions if they have completed appropriate PME and/or have a master's degree and certifications appropriate for the educational background.

9. Geographic Mobility

For those willing and able to be geographically mobile, there may be more opportunities to achieve breadth and depth in career experiences. Effective civilian force development depends upon filling enterprise leadership positions with those who have a variety of work experiences. Holding positions at multiple installations exposes an Engineer/Architect to a wider understanding of DAF missions. For example, experiencing operations at a fighter or heavy aircraft, research and development, or training and education focused installation provides unique experiences. Engineers/Architects should also consider size of installation and geographic location when considering breadth of experiences at the installation level. Engineer requirements at an overseas base are different from those at a Continental United States (CONUS) base, as are the requirements at a small single mission installation vis-à-vis a large multi-mission installation. Experience working with a Reserve Component mission will also provide an understanding of the benefits, limitations, authorities, and proper application of the different components to meet Total Force mission requirements. Variations in climate (southern coastal vs northern tier) can also provide breadth of experience. When applying for installation level leadership positions, this depth and breadth of experience may be the factor that makes an Engineer/Architect the best-qualified candidate for a selection to fill a vacancy. This is increasingly true when applying for non-leadership or leadership positions at the intermediate and headquarters level of development.

10. Defense Acquisition Workforce Professional Currency

10.1. Some DAF Engineer and Architect positions coded as Acq Demo require additional Defense Acquisition Workforce Professional Currency training. Acq Demo oversight is transitioning from AFMC to DAF (SAF/AQ). This will shift the focus from functional organizations to Directorate-driven, mission-led portfolios, streamlining authority and empowering mission leads to manage their personnel directly. Additional details about this training is available in Part 2, Section E.

11. Professional Licensing/Registration/Certification

11.1. Professional licensing or registration for Engineers/Architects is highly valued by the CECFT and hiring authorities. Professional licensing/registration is indicative of a work force with strong technical skills which have been developed and exhibited through a rigorous program of education, experience, and testing. Types of professional licensing/registration include licensed Professional Engineer (PE), Registered Architect (RA), and licensed Structural Engineer (SE).

11.2. Several positions within the CE enterprise require engineers with professional licenses or registration. Typically, at the base level only the engineering flight chief requires a professional license or registration. Professional licensing or registration is also highly desirable, if not required for senior leadership positions and SMEs. For those Engineer/Architect positions in the CE enterprise that do not require registration, selecting officials are encouraged to consider registration as an indicator of the candidates' professionalism and excellence and it is a factor in evaluating candidates for promotion. More information on the CE credentialing policy can be found (**HERE**).

11.3. Professional certification from a recognized professional association is also highly desired by selecting officials such as Project Management Professional (PMP), Leadership in Energy and Environmental Design (LEED), continuous process improvement, such as Lean Six Sigma certifications, etc., as these enhance the skills and knowledge necessary for becoming a successful Engineer/Architect and leader in the CE enterprise. Certification usually requires a commitment of time and money outside of the normal work environment, and employees are encouraged to discuss the various options with their supervisor and/or mentor.

11.4. Additional details on certifications may be found at the Department of War (DoW) Civilian Credentialing Opportunities On-Line (DCOOL) website (**HERE**). The site allows users to search by occupational series code or title and find general information on credentialing relating to the individual federal occupational series. Clicking on a credential title in the system provides detailed information about the credential, such as a description, its eligibility requirements, exam topics, and recertification requirements.

11.5. Expenses for training and professional registration may be funded by the unit. Specifically, Title 5, U.S.C., Section 5757, as implemented by DoD Instruction (DoDI) 1400.25, Volume 410, authorizes agencies to use appropriated funds to pay for civilian employees to obtain and renew professional credentials. This includes expenses for professional accreditation, State-imposed and professional licenses, professional certifications, and the examinations required to obtain such credentials.

This authority is permissive, not mandatory, and does not establish an entitlement for the employee. Furthermore, this authority may not be exercised on behalf of any employee occupying, or seeking to qualify for, a position that is excepted from the competitive service due to the confidential, policy-determining, policymaking, or policy-advocating character of the position.

Because this specific statutory authority is codified in Title 5 U.S.C. (Government Organization and Employees), it applies strictly to civilian personnel and not to military members. Finally, the

use of appropriated funds for professional credentials does not extend to paying an employee's membership fees in professional organizations, unless that membership is a mandatory prerequisite to obtaining the actual professional license or certification.

12. DAF Competencies

12.1. The Department of the Air Force defines competencies as a combination of knowledge, skills, abilities and other characteristics that manifest in observable and measurable patterns of behavior required for mission success. The CFT has developed competencies for the Engineer/Architect needed for success on the job. This effort was accomplished by identifying and integrating the civil engineer career fields occupational competencies and leveraging the Air Force's foundational competencies in a manner that provides all Airmen with transparent and unbiased pathways towards their own successful development.

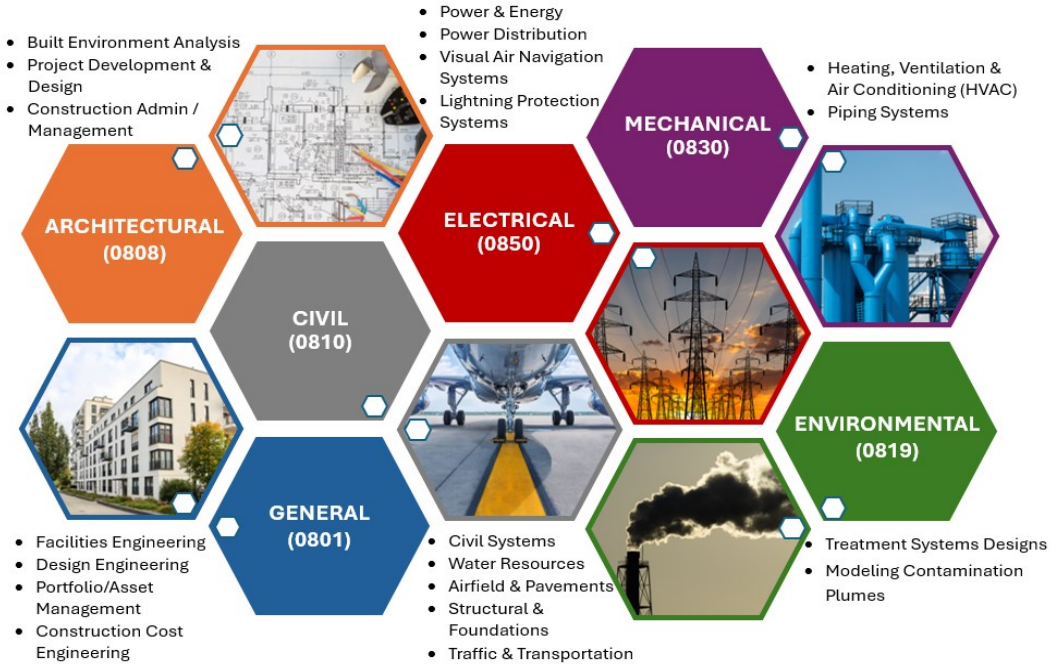
12.2. Competency models, used within the context of total force development, enable the Air Force to maintain or modify its assignment, classification, learning and development, recruitment, retention, and other talent management policies, strategies, operations, tactics, procedures, and techniques to meet mission requirements.

12.3. The foundational competencies are those competencies valued by the DAF and are universally applicable to all Engineers/Architects. These competencies are the core of Engineers/Architects development and enable Engineers/Architects with tools, pathways, and capabilities to improve their performance in any job, specialty, or situation. The foundational competencies are grouped into different categories of Developing Self, Developing Others, Developing Ideas, and Developing Organization (Figure 3). Engineers/Architects can open MyVector (accessible via the DAF Portal) to complete a self-assessment, which offers an opportunity to evaluate themselves on the Engineer/Architect foundational competencies or a 360-degree assessment, where subordinates, peers, and leaders can also provide feedback. The assessment tools will provide Engineers/Architects with immediate feedback on personal strengths and areas for improvement. Additionally, MyVector provides a personal improvement plan with targeted resources (videos, reading content, developmental opportunities) for continued self-development. Occupational competencies are a set of competencies required of all Engineers/Architects within a specific workforce category. These competencies provide a framework that describes the knowledge, skills, abilities, and other characteristics needed to perform that function's mission successfully.

Figure 3 The Air Force Foundational Competency Model

12.4. A team of Engineers and Architects from the DAF civil engineer enterprise have further identified and developed additional competencies for 0801, 0808, 0810, 0819, 0830, and 0850 Figure 4 provides an overview of competencies critical for the Engineer/Architect series discussed in this CFETP.

Figure 4 Civil Engineer And Architect Competencies Overview



12.5. Occupational Competency Model. An occupational series' competency can be viewed in a competency model, which is an organized collection of competencies pertinent to the career field. The occupational competency models in in the below tables provide a framework to effectively assess, maintain, and monitor the competencies required for mission success for Engineers/Architects. The occupational competency modeling process follows a distinct process with continued involvement from the career field and allows Engineers/Architects to see how their task lists, on-the-job training, formal courses, and other training, education, and experiences are aligned to the career field's strategic objectives. The competency models focus on integrating not just the technical components, but also the leadership, resource management, asset management, managerial, social and interpersonal competencies required for Engineers/Architects to succeed in the field.

13.0 Engineer/Architect Competencies

13.1. Competencies applicable for all Engineer and Architect Series are included in Table 1. Additional competencies unique for other Engineer and Architect series (e.g. 0808, 0810, 0819, 0830, and 0850) follow in subsequent tables.

Table 1 General Engineer Competencies

GENERAL ENGINEER (0801)	
Competency	**Definition**
FACILITIES ENGINEERING (0801)	Technical knowledge of two or more engineering disciplines concepts, principles, and practices applicable to evaluation, construction management, life cycle management, etc. and the application of them to DoW Sustainment Management System, directing the development of short- and long-range facilities requirements. This includes the application of engineering concepts, principles, theories, methods, and tools for the evaluation, operation, maintenance, repair and disposal of facilities and infrastructure. Ability to effectively communicate engineering ideas to non-technical personnel.
DESIGN ENGINEERING (0801)	Designs and analyzes facilities and infrastructure requirements, coordinates/manages design and construction projects, and performs engineering calculations. Technical knowledge of two or more engineering disciplines concepts, principles, codes and standards applicable to engineering design and construction management. Applies general engineering concepts, principles, theories, methods, and tools for the planning, design, construction, and disposal of facilities and infrastructure. Ability to effectively coordinate multiple stakeholders and communicate engineering ideas to non-technical personnel.
PORTFOLIO/ASSET MANAGEMENT (0801)	Ability to gather, organize, and analyze complex data sets to recommend engineering solutions and prioritize facility projects, work orders and assets. Knowledge of common business practices, economic principles, and financial management standards for DoW Planning, Programming, and Budgeting System (PPBS).
CONSTRUCTION COST ENGINEERING (0801)	Proficiency in the application of concepts, principles, theories, methods, and tools related to the preparation of financial analysis and cost estimates for asset management projects (e.g., planning, programming, design, construction, etc.). Ability to understand engineering drawings and perform takeoff quantities to create Uniformat II Work Breakdown Schedule (WBS) to develop parametric cost estimates following current DoW Guidance (e.g., UFC 3-701-01) and/or industry standard guidance (e.g., AACE 34R-05 Basis of Estimate).

13.2. Competencies for Architects (series 0808) are listed in Table 2.

Table 2 Architect Competencies

ARCHITECT (0808)	
Competency	**Definition**
BUILT ENVIRONMENT ANALYSIS (0808)	Evaluation of building and site factors including materials, performance (e.g., energy efficiency, sustainability, maintainability, etc.), space, functional analysis, cost, code and regulatory compliance, and their effect on the design of Air Force structures.
PROJECT DEVELOPMENT AND DESIGN (0808)	Application and communication of design considerations including aesthetics, design standards, function, space, technology, environment and sustainability, materials, contract and budget for the development and maintainability of built environment to meet stakeholder requirements.
CONSTRUCTION ADMINISTRATION/ MANAGEMENT (0808)	Interpret construction drawings and specifications to validate that the design complies with applicable codes and regulations. Coordinate stakeholders during the construction stage of a project. Evaluate contractor submittals for technical acceptability, execution feasibility, and completeness. Assess, monitor, and document contractor progress and performance against contract scope of work and recommend corrective actions to the contracting officer. Coordinate project with other government departments (e.g. Fire, Communications, Environmental.

13.3. Air Force Civil Engineers play a crucial, multifaceted role encompassing a wide range of responsibilities in both combat and non-combat environments. Primarily responsible for ensuring the mobility of friendly forces while hindering enemy movements. Beyond the battlefield, they are responsible for the design, construction, and maintenance of bases and their build infrastructure, providing essential utilities like water and power, and managing a wide array of construction projects.

This broad field of civil engineering supports the overall mission by shaping the physical environment, providing logistical support, and ensuring the survivability and effectiveness of Air Force Power Projection Platforms in both war and peace. Specific competencies identified for Civil Engineers (series 0810) to ensure effectiveness are listed in Table 3.

Table 3 Civil Engineer Competencies

CIVIL ENGINEER (0810)		
Competency	**Definition**	
CIVIL SYSTEMS (0810)	Application of the broad principles, concepts, and methods related to integrated networks of physical infrastructure and environmental interactions designed to deliver essential services such as transportation, water supply, waste management, airfield and pavement management, energy distribution, and public safety.	
Competency	**Sub-Competency**	**Definition**
OCCUPATIONAL (0810)	Airfield & Pavement Engineering	Application of the broad principles of engineering design and knowledge of soil mechanic principles, and asphalt and concrete technology in the design, construction and maintenance of pavements, and air bases.
	Structural & Foundation Engineering	Application of the concepts, principles, and methods required to evaluate subsurface soil or geologic properties and determine of the effects of loads on fitness for use of physical structures and their components, as well as those related to applied mechanics, materials science and applied mathematics to compute a structure's deformations, internal forces, stresses, support reactions, accelerations, and stability.

	Water Resource Engineering	Application of the concepts, principles theories, methods, and tools used to design, govern, manage, and sustain water and wastewater (including storm water) resources and facilities.
	Traffic & Transportation Engineering	Application of concepts, principles and methods related to safe and efficient control of traffic flow (including road geometry, traffic capacity, sidewalks and crosswalks, segregated cycle facilities, shared lane marking, traffic signs, road surface markings and traffic lights) and of rail traffic to facilitate the movement of materials and personnel.

13.4. Competencies for Environmental Engineers (series 0819) are listed in Table 4.

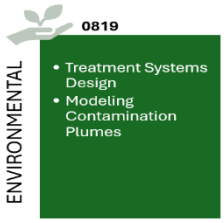


Table 4 Environmental Engineer Competencies

ENVIRONMENTAL ENGINEER (0819)	
Competency	**Definition**
TREATMENT SYSTEMS DESIGN (0819)	Application of concepts, principles, theories, methods, and standards related to the analysis, selection, design, operation, and maintenance of environmental treatment systems (e.g., calculating and modeling loads, system selection, equipment sizing and selection, system controls, optimizing operations).
MODELING CONTAMINATION PLUMES (0819)	Application of concepts, principles, theories, methods, and standards related to the analysis and sampling to determine plume size, evaluating in-situ conditions, and regulatory reporting requirements.

13.5. Competencies for Mechanical Engineers (series 0830) are listed in Table 5.

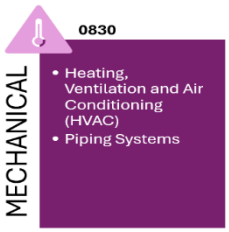


Table 5 Mechanical Engineer Competencies

MECHANICAL ENGINEER (0830)	
Competency	**Definition**
HEATING, VENTILATION & AIR CONDITIONING (HVAC) (0830)	Applies core engineering principles to analyze, design, select, and maintain systems for heating, cooling, and ventilation. Capable of performing heat and cooling load calculations and system modeling, selecting appropriate equipment based on performance and operational needs, developing control strategies, optimizing operations, and designing refrigeration and ductwork. Conversant in relevant codes, standards, and established best practices throughout the HVAC system lifecycle. Technical skills include ability to plan and configure systems for heating, cooling, humidity, and ventilation; determine thermal loads; evaluate capacity needs and selecting appropriate units; develop HVAC project specifications; develop control strategies for efficient operations; and designing airflow and water systems.
PIPING SYSTEMS (0830)	Applies engineering fundamentals to design, analyze, select, and maintain fluid distribution networks including steam, high-temperature hot water (HTHW), chilled water, and condensate systems. Capable of sizing and selecting equipment such as domestic water, boilers, gas turbines, chillers, cooling towers, and heat exchangers to meet system requirements. Conversant in relevant codes, standards, and established best practices throughout the HVAC system lifecycle. Develop operational strategies, optimizing performance, and ensuring efficient system integration and reliability. Technical skills include ability to assess and configure piping systems for steam, chilled water, condensate, and other mediums; competencies in modeling flow rates, pressure drops, and heat transfer within complex networks.
CONSTRUCTION ADMINISTRATION/ MANAGEMENT (0808)	Interpret construction drawings and specifications to validate that the design complies with applicable codes and regulations. Coordinate stakeholders during the construction stage of a project. Evaluate contractor submittals for technical acceptability, execution feasibility, and completeness. Assess, monitor, and document contractor progress and performance against contract scope of work and recommend corrective actions to the contracting officer. Coordinate project with other government departments (e.g. Fire, Communications, Environmental.
CONSTRUCTION COST ENGINEERING	Proficiency in the application of concepts, principles, theories, methods, and tools related to the preparation of financial analysis and cost estimates for asset management projects (e.g., planning, programming, design, construction, etc.). Ability to understand engineering drawings and perform takeoff quantities to create Uniformat II Work Breakdown Schedule (WBS) to develop parametric cost estimates following current DoW Guidance (e.g., UFC 3-701-01) and/or industry standard guidance (e.g., AACE 34R-05 Basis of Estimate).

13.6. Competencies for Electrical Engineers (series 0830) are listed in Table 6.

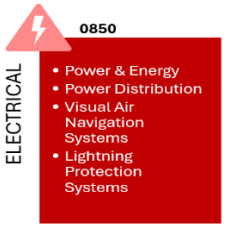


Table 6 Electrical Engineer Competencies

ELECTRICAL ENGINEER (0850)	
Competency	**Definition**
POWER & ENERGY (0850)	Application of power engineering theory, principles, methods, and tools to generate and integrate power from renewable energy (e.g., solar, wind) and backup sources (e.g., diesel generators, battery storage), ensuring safe, reliable and efficient power delivery while considering grid interconnection standards and power quality requirements.
POWER DISTRIBUTION (0850)	Application of power engineering theory, principles, methods, and tools to provide power and maintain power distribution systems (e.g., substations, transformers, transmission lines) ensuring safe, reliable, and efficient delivery of power to critical infrastructure and operations while adhering to relevant standards, regulations and cybersecurity protocols.
VISUAL AIR NAVIGATION SYSTEMS (0850)	Application of electrical engineering principles, methods, and tools to design, install, maintain, and troubleshoot visual air navigation systems (e.g., runway lighting systems (e.g., approach lights, runway edge lights), visual glide slope indicators (VGSI) (e.g., PAPI, VASI), airfield signs) to ensure safe and efficient aircraft operations in all weather conditions, adhering to relevant standards and regulations (e.g., FAA, ICAO), and maintaining system performance and reliability to meet operational requirements while complying with applicable safety protocols.
LIGHTENING PROTECTION SYSTEMS (0850)	Application of lightning protection engineering theory, principles, methods, and tools (e.g., grounding systems, surge protection devices (SPDs), air terminals, bonding techniques, risk assessments) to design, install, inspect, and maintain lightning protection systems for critical infrastructure, facilities, and equipment, ensuring compliance with relevant codes and standards (e.g., NFPA 780, UL 96A) to minimize damage and prevent personnel injury while adhering to applicable safety regulations.

13.7. The below additional competencies in Table 7 are suggested for the multiple listed series.

Table 7 Electrical Engineer Competencies

MULTI-SERIES	
Competency	**Definition**
INVESTIGATIONS & SURVEYS (0808/0810/0819)	Application of concepts, principles, theories, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features and phenomena.
ENERGY ENGINEERING (0830/0850)	Application of energy engineering theory, principles, methods and tools to design and integrate efficient and sustainable renewable energy systems with backup power sources, to optimize energy conversion, storage, and distribution while ensuring interconnection standards, grid compatibility and power quality requirements are considered.
CONTROL SYSTEMS ENGINEERING (0830/0850)	Application of controls systems engineering theory, principles, methods, and tools (e.g., Programmable Logic Controllers (PLCs), Supervisory Control and Data Acquisition (SCADA) systems, Human-Machine Interfaces (HMIs), sensors, actuators) to design, program, integrate and maintain automated electrical control systems for critical infrastructure and operations (e.g. industrial control, cathodic protection, fire alarm and detection, lighting controls, and electronic security systems), ensuring safe, reliable and efficient performance while adhering to relevant standards, regulations and cybersecurity protocols.
FIRE PROTECTION (0808/0830/0850)	Application of fire protection engineering theory, principles, methods, and tools (e.g., fire alarm and detection networks, mass notification systems, power sources, and emergency control functions) to design, evaluate, and integrate life safety and property protection systems for facilities and critical infrastructure, ensuring optimal system reliability, survivability, and rapid response while adhering to applicable building codes, National Fire Protection Association (NFPA) standards, and Unified Facilities Criteria (UFC).

14.0 Occupational Competency Rubric for 0801 Engineer/Architects After a competency model is developed, a team of subject matter experts begin to build a competency rubric, which consists of the competency, a description of the competency, proficiency levels, and measurable and observable behaviors. The competency rubrics will help Engineers/Architects learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success.

To better understand how to read and utilize a competency rubric, a breakdown of each component is explained below in Table 8.

Table 8 Competency And Proficiency Breakdown

COMPETENCY –	The **COMPETENCY** section states the competency group.
SUB-COMPETENCY (if applicable)	The **SUB-COMPETENCY** section, where applicable, states the narrower category that forms part of the competency group.

PROFICIENCY LEVEL	INDICATORS
BASIC Sustained application of competency over time	The proficiency levels are broken into four parts: basic, intermediate, advanced and expert. Under each proficiency level are predetermined criteria selected by a group of Engineer/Architect stakeholders. The criteria provide the basis to develop observable behaviors. These criteria provide concrete parameters for the behaviors, which are consistent but progressive in nature, as a member moves up the scale from early to late career. Some of the criteria (e.g., depth of knowledge, consistency of application/ complexity, and thinking challenge) allow an individual to become an expert through the experience gained in a particular job over time. For example, the person can quickly or slowly move up the different levels of proficiency in the same position at the flight; they move quickly because they are exposed to an abundance of situations. While other criteria (e.g., scope, impact, and reach of influence) require more of a hierarchical approach to gain the experience needed to progress through the competency levels. Moving through the proficiency levels may be difficult to do at certain jobs. For example, if scope at the expert level requires job integration with the DAF level, then the individual may have to be in a position where they can gain that experience (i.e., at HQ, Wing, or an organization with far reaching capabilities).
INTERMEDIATE	
ADVANCED Sustained application of competency in a variety of situations	
EXPERT Sustained application of competency in complex situations	

Engineers/Architects can use the rubric to learn what behaviors are needed for their current job but also to review other position requirements to plan a flight path for the future. Additionally, Engineers/Architects can be self-empowered concerning their own professional development by clearly knowing the behaviors needed for job success. The model offers career field members clear, objective, and observable behaviors they should strive to exhibit. Instructional systems specialists can use the model to gain a deeper understanding of what defines success within their career field or organization and begin to build a flight path towards attaining those successful behaviors through self-development.

A competency map can be overlaid against the current proficiency levels an individual has attained to build a personalized competency map. This personalized map, constructed by the supervisor, will allow members to view their status, strengths, and shortfalls against the position they currently fill. The personalized competency map can be used as a mentorship or individual development tool as Engineers/Architects seek to balance between current mission needs and future desires. **Table 4** provides an example of a competency map for a position within the Engineer/Architect occupational series where an Engineer/Architect should have the required sub-competency at the appropriate proficiency level. The annotated numbers in the table correlate to the proficiency level within the competency rubric: Basic, Intermediate, Advanced, and Expert.

14.1. Tables 9-11 provide an example of competency rubrics for 0801 Engineer and Architects.

Table 9 Competency Rubric For Engineers/Architects - Facilities Engineering

0801 COMPETENCY –	*FACILITIES ENGINEERING*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, and Air Force requirements (i.e., UFC, UFGS, AFI, ETL, NFPA, IMC, IPC) when constructing, maintaining, and operating facility systems and infrastructure. ▪ Understand real property portfolio requirements. ▪ Demonstrate Engineering Competency to include ability to review/understand design documents (drawings, specifications, calculations) and perform quality control checks on these documents. ▪ Ability to perform site surveys and investigations, with appropriate documentation being developed to include as-builts, warranties, and close-out documents. ▪ Baseline technical computer skills (e.g., CAD, GIS, etc.). ▪ Proficiency with NexGen IT.
INTERMEDIATE	▪ Demonstrate comprehension of applicable codes, standards, laws, and Air Force requirements (i.e., UFC, UFGS, AFI, ETL, NFPA, IMC, IPC) when constructing, maintaining, and operating facility systems and infrastructure. ▪ Understand real property portfolio requirements. ▪ Demonstrate Engineering Competency to include ability to review/understand design documents (drawings, specifications, calculations) and perform quality control checks on these documents. ▪ Ability to perform site surveys and investigations, with appropriate documentation being developed to include as-builts, warranties, and close-out documents. ▪ Baseline technical computer skills (e.g., CAD, GIS, etc.). ▪ Proficiency with NexGen IT.
ADVANCED	▪ Ensure compliance with appropriate laws, codes, and standards when evaluating, operating, maintaining, repairing, and disposing of facilities and infrastructure. ▪ Seek policy interpretation and waivers.
EXPERT	▪ Develop and/or select applicable laws, codes, and standards for the design and operation of facility systems. ▪ Research requirements, develop research, and develop needs relating to requirements for buildings and infrastructure systems for world-wide CE organizations. ▪ Provide policy development, interpretation, and waivers.

Table 10 Competency Rubric For Engineers/Architects - Portfolio/Asset Management

0801 COMPETENCY – *PORTFOLIO/ASSET MANAGEMENT*	
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Validate requirements and perform data analysis using enterprise business tools to optimize infrastructure investments at the lowest life-cycle operating cost. ▪ Prioritize requirements for execution that are informed by funding strategies, sustainment data, base master planning, schedule, mission requirements and risk. ▪ Identify installation infrastructure vulnerabilities and mitigate risk to mission assurance by development options to improve resilience ▪ Identify the legal, appropriate and effective source of funds for requirements. ▪ Develop a comprehensive project programming package for funding and approval. ▪ Proficiency with NexGen IT.
INTERMEDIATE	▪ Communicate facility and infrastructure requirements and expected risk to mission to stakeholders. ▪ Organize and manage resources (personnel, materials and equipment) to gain and maintain accurate asset viability, condition assessment, and information requirements. ▪ Leverage public and private partnerships through community engagement, mutual agreements, and third-party financing in the acquisition of materials and equipment. ▪ Develop a plan that addresses manpower and personnel requirements to have resources that enable the mission. ▪ Develop and execute plans to mitigate mission impact during unplanned utility service interruptions.
ADVANCED	▪ Advocate, support and defend Civil Engineer resources within an assigned program element. ▪ Operate within the congressional cycle by communicating civil engineer requirements, resources and risk to influence the AF Program Objective Memorandum (POM) position. ▪ Anticipate emerging requirements across the installation and incorporate into work plans or project lists. ▪ Translate policy and guidance into prioritized operational and tactical objectives. ▪ Direct execution of civil engineer resources to meet operational and functional mission requirements.
EXPERT	▪ Effectively communicate civil engineer enterprise business rules and rationale to leadership and key stakeholders. ▪ Anticipate and adapt in a dynamic operating environments with good engineering judgement and critical thinking skills. ▪ Actively participate in operational planning teams to continuously improve operational capabilities.

Table 11 Competency Rubric for Engineers/Architects - Construction Cost Estimating

0801 COMPETENCY –	*CONSTRUCTION COST ESTIMATING*
SUB-COMPETENCY –	**Installation Development Planning**
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Proficiency in reading As-Built and Design Drawings used to develop correct quantities take-offs. ▪ Understand process of decomposing Scope of Work (SOW) into Work Breakdown Schedule (WBS). ▪ Create parametric cost estimates (Class 3 or 4) using approved DAF enterprise software (e.g., PACES). ▪ Understanding of Basis of Estimate (BoE).
INTERMEDIATE	▪ Knowledge of risk analysis for cost estimating assessing uncertainties in qualities and material pricing. ▪ Understand pricing of general requirements and contractor SIOH. ▪ Understanding BUILDER data and utilization in cost estimate preparation.
ADVANCED	▪ Expertise in reviewing parametric cost estimates for projects requiring MAJCOM and/or HHQ review (i.e., SAF/IEE approval). ▪ Knowledge of Planning, Programming, Budgeting, and Execution (PPBE). ▪ Knowledge of cost estimating tradeoffs and project requirements. ▪ Review cost estimates developed by subordinates.
EXPERT	▪ Knowledge of Economic Analysis (EA) for FSRM/MILCON projects and data requirements IAW DAFI 65-501 DAFGM 2025-01. ▪ Expertise in cost escalation processes and Consumer Price Index (CPI) real-time changes to cost estimates. ▪ Expertise in assessing value engineering proposals from contractor and impacts to project requirements.

14.2. A team of 0808 Architects developed competency rubrics to help Architects learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success. Tables 12-14 provide additional details.

Table 12 Competency Rubric for 0808 Architects - Built Environment Analysis

0808 COMPETENCY –	*BUILT ENVIRONMENT ANALYSIS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Knowledge of applicable codes, standards, laws, and DoW/DAF instructions for constructing, maintaining, and operating buildings and infrastructure. ▪ Knowledge of the design process and necessary pre-design assessments. ▪ Demonstrate ability to perform existing conditions analysis including conducting space analysis, collection and review of as-built / record drawings, master planning documents, environmental surveys, and engineering studies. ▪ Ability to work independently and as a multi-disciplinary team. ▪ Baseline technical skills to translate analysis into standard formats and templates.
INTERMEDIATE	▪ Ability to accurately apply codes, standards, laws, and DoW/DAF instructions when conducting site or existing building analysis to determine potential constraints that may impact design and construction. ▪ Demonstrate ability to interpret as built / record drawings, master planning documents, environmental surveys, space analysis, and engineering studies to determine impacts on design and project scope. ▪ Demonstrate ability to conduct site evaluation for constructability and compatibility with project scope and determine limitations / advantages of multiple sites / existing facilities. ▪ Knowledge of all necessary technical programs to execute site/existing building analysis. ▪ Demonstrate ability to instruct junior staff on the pre-design process. ▪ Demonstrate ability to lead a multi-disciplinary team through the pre-design process.
ADVANCED	▪ Ensure compliance with codes, standards, laws, and DoW/DAF instructions. ▪ Ability to brief installation level leadership on complex issues or waiver requests. ▪ Prepare waiver packages. ▪ Ability to oversee others who are actively managing design projects.
EXPERT	▪ Develops and revises guidance to address enterprise-wide requirements, changes to laws and industry standards, or corporate initiatives. ▪ Provide policy interpretation and approve / recommend approval of waivers. ▪ Ability to brief Senior Leaders on complex issues, policy changes, or waiver requests.

Table 13 Competency Rubric for 0808 Architects - Project Development and Design

0808 COMPETENCY –	*PROJECT DEVELOPMENT AND DESIGN*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Knowledge of applicable codes, standards, laws, and DoW/DAF instructions that apply to a project. ▪ Develops ability to evaluate existing project conditions to include project feasibility. ▪ Gains ability to develop a viable program that establishes project criteria based on client. requirements/stakeholder feedback. ▪ Develops ability to create design solutions that address project requirements to include analyzing cost estimates. ▪ Develops ability to create deliverables such as drawings and specifications that convey a design solution. ▪ Gains knowledge to coordinate the integration of building systems amongst the different specialties into a project design.
INTERMEDIATE	▪ Understands, identifies and applies applicable codes, standards, laws, and DoW/DAF instructions to a project. ▪ Demonstrates ability to evaluate existing project conditions to include project feasibility. ▪ Capable of developing a viable program that establishes project criteria based on client requirements/stakeholder feedback. ▪ Has ability to create design solutions that address project requirements to include analyzing cost estimates. ▪ Is able to create deliverables such as drawings and specifications that convey a design solution. ▪ Can coordinate the integration of building systems amongst the different specialties into a project design. ▪ Gains ability to lead a multi-disciplinary team through the design process from start to finish. ▪ Demonstrates knowledge and understanding of NFPA 101, NFPA 3 & NFPA 13 codes.
ADVANCED	▪ Ensures compliance with codes, standards, laws, and DoW/DAF instructions. ▪ Leads and manages all aspects project design from start to finish. ▪ Leads complex project meetings and facilitates communication between stakeholders. ▪ Mediates disputes and finds mutually acceptable solutions. ▪ Demonstrate ability to lead a multi-disciplinary team through the design process. ▪ Manages revision and change order process from initiation to completion. ▪ Ensures all project documents are complete, accurate and readily accessible. ▪ Mentors and develops junior staff in best practices.
EXPERT	▪ Provides expert advice on applicable codes, standards, laws, and DoW/DAF instructions. ▪ Develops and implements innovative solutions to address complex problems. ▪ Ability to brief Senior Leaders on complex issues, design and technical concepts or policy changes.

TABLE 14 COMPETENCY RUBRIC FOR 0808 ARCHITECTS – PROJECT DEVELOPMENT AND DESIGN

0808 COMPETENCY –	*CONSTRUCTION AMINISTRATION/MANAGEMENT*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Assists with project setup tasks and understands basic construction terminology and processes. ▪ Locates and has firm knowledge of contract documents (e.g. drawings, specs, submittals). ▪ Understands and tracks basic project schedule and key milestones. ▪ Prepares basic correspondence and forms with accurate information (e.g. transmittals, meeting notices). ▪ Communicates clearly and relays information accurately. ▪ Assists with site inspections and tracks deficiencies. ▪ Understands basic project budget and tracks expenses. ▪ Follows all safety rules and regulations.
INTERMEDIATE	▪ Interprets contract clauses and identifies potential implications, recognizes deviations from contract. ▪ Manages submittal logs, prepares and distributes meeting minutes, processes and tracks RFI's. ▪ Communicates with contractors regarding project requirements, facilitates basic coordination meetings. ▪ Reviews submittals for compliance with contract documents. ▪ Conducts site inspections and documents deficiencies. ▪ Tracks payment and project schedule.
ADVANCED	▪ Leads and manages all aspects of construction projects from start to finish. ▪ Manages revision and change order process from initiation to completion. ▪ Ensures all project records are complete, accurate and readily accessible, manages documents. ▪ Leads complex project meetings and facilitates communication between stakeholders. ▪ Mediates disputes and finds mutually acceptable solutions. ▪ Oversees all aspects of quality assurance and compliance with contract requirements. ▪ Manages project budget and cost overruns.
EXPERT	▪ Provides expert advice on contract interpretation and dispute resolution. ▪ Develops contract strategy for large and complex projects. ▪ Establishes best practices for project documentation management. ▪ Develops and implements solutions to improve efficiency and reduce risk. ▪ Mentors and develops junior staff in best practices. ▪ Develops and implements innovative quality control programs.

14.3. A team of 0810 Civil Engineers developed competency rubrics to help Civil Engineers learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success. Tables 15-19 provide additional details on one competency and sub-competencies.

TABLE 15 COMPETENCY RUBRIC FOR 0810 CIVIL ENGINEERS – CIVIL SYSTEMS

0810 COMPETENCY –	*CIVIL SYSTEMS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Applies broad principles of engineering design. ▪ Knowledge of soil mechanic principles, and asphalt and concrete technology in the construction and maintenance of pavements, and air bases. ▪ Basic understanding of NexGen IT and CE IT Platforms / Shadow Installation PMs; Interpret construction drawings and specifications to validate the construction complies with the design. ▪ Demonstrates comprehension of applicable codes and standards (i.e. UFC, UFGS, AFI, ETL, NFPA, IMC, IPC, Environmental) when designing and operating Civil systems under supervision. ▪ Coordinate with appropriate stakeholders, managers and staff during design & construction stage of projects. ▪ Evaluate contractor submittals for technical acceptability, execution feasibility and completeness; create project documents.
INTERMEDIATE	▪ Applies the codes and standards (i.e., UFGS, AFI, ETL, NFPA, etc.) when designing and operating civil systems under limited supervision; Identifies potential policy exceptions and waiver requirements. ▪ Applies concepts, principles, theories, tools, financial estimates, programming, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features to include sustainable design measures related to preparation of contracts and management of personnel and facilities. ▪ Applies knowledge required to evaluate subsurface soil or geologic properties and determine of the effects of loads on fitness for use of physical structures and their components, as well as those related to applied mechanics, materials science and applied mathematics to compute a structure's deformations, internal forces, stresses, support reactions, accelerations, and stability.
ADVANCED	▪ Applies concepts/principles/theories/methods related to the management of construction, contracts, and contractors. ▪ Ensures compliance w/ appropriate codes/standards when designing/operating civil systems w/o supervision. ▪ Seeks policy interpretation and waivers. ▪ Interprets construction drawings/specifications to validate design complies w/applicable codes and regulations. ▪ Adapts standard designs to meet user requirements and site considerations where appropriate. ▪ Provides oversight/direction on multiple construction projects, directing work of subordinate project managers. ▪ Designs, manages, and sustains water/wastewater (including storm water) resources and facilities.

0810 COMPETENCY –	*CIVIL SYSTEMS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
	▪ Benchmarks industry best practices
EXPERT	▪ Develops applicable codes and standards for the design and operation of civil systems. ▪ Research requirements, develop research, and develop needs relating to civil requirements for buildings and infrastructure systems for world-wide CE organizations. ▪ Provides policy interpretation/development/waivers; brief senior leaders on progress and status of projects. ▪ Apply knowledge for safe and efficient control of traffic flow, such as road geometry, traffic capacity, sidewalks and crosswalks, segregated cycle facilities, shared lane marking, traffic signs, road surface markings and traffic lights, to facilitate the movement of materials and personnel.

TABLE 16 SUB-COMPETENCY RUBRIC FOR 0810 CIVIL ENGINEERS – AIRFIELD AND PAVEMENT ENGINEERING

0810 COMPETENCY –	*OCCUPATIONAL*
SUB-COMPETENCY –	AIRFIELD & PAVEMENT ENGINEERING
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Applies broad principles of engineering design. ▪ Knowledge of soil mechanic principles, and asphalt and concrete technology in the construction and maintenance of pavements, and air bases. ▪ Basic understanding of NexGen IT and CE IT Platforms / Shadow Installation PMs. ▪ Interpret construction drawings and specifications to validate the construction complies with the design ▪ Demonstrates comprehension of applicable codes and standards (i.e. UFC, UFGS, AFI, ETL, NFPA, IMC, IPC, Environmental) when designing and operating Civil systems under supervision. ▪ Coordinate with appropriate stakeholders, managers and staff during design & construction stage of projects. ▪ Evaluate contractor submittals for technical acceptability, execution feasibility and completeness; create project documents.
INTERMEDIATE	▪ Applies the codes and standards (i.e., UFGS, AFI, ETL, NFPA, etc.) when designing and operating civil systems under limited supervision; Identifies potential policy exceptions and waiver requirements ▪ Applies concepts, principles, theories, tools, financial estimates, programming, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features to include sustainable design measures related to preparation of contracts and management of personnel and facilities ▪ Applies knowledge required to evaluate subsurface soil or geologic properties and determine of the effects of loads on fitness for use of physical structures and their components, as well as those related to applied mechanics, materials science and applied mathematics to compute a structure's deformations, internal forces, stresses, support reactions, accelerations, and stability.
ADVANCED	▪ Applies concepts/principles/theories/methods related to the management of construction, contracts, and contractors. ▪ Ensures compliance w/ appropriate codes/standards when designing/operating civil systems w/o supervision. ▪ Seeks policy interpretation and waivers. ▪ Interprets construction drawings/specifications to validate design complies w/applicable codes and regulations. ▪ Adapts standard designs to meet user requirements and site considerations where appropriate. ▪ Provides oversight/direction on multiple construction projects, directing work of subordinate project managers. ▪ Benchmarks industry best practices.
EXPERT	▪ Develops applicable codes and standards for the design and operation of civil systems. ▪ Research requirements, develop research, and develop needs relating to airfield and pavement systems for world-wide CE organizations. ▪ Provides policy interpretation/development/waivers; brief senior leaders on progress and status of projects.

TABLE 17 SUB-COMPETENCY RUBRIC FOR 0810 CIVIL ENGINEERS – STRUCTURAL AND FOUNDATION ENGINEERING

0810 COMPETENCY –	*OCCUPATIONAL*
SUB-COMPETENCY –	STRUCTURAL & FOUNDATION ENGINEERING
DESCRIPTION –	***placeholder***

PROFICIENCY LEVEL	OBSERVABLE BEHAVIORS
BASIC	▪ Applies broad principles of engineering design. Knowledge of soil mechanic principles; Basic understanding of NexGen IT and CE IT Platforms / Shadow Installation PMs; Interpret construction drawings and specifications to validate the construction complies with the design; Demonstrates comprehension of applicable codes and standards (i.e. UFC, UFGS, AFI, ETL, NFPA, IMC, IPC, Environmental) when designing and operating Civil systems under supervision; Coordinate with appropriate stakeholders, managers and staff during design & construction stage of projects; Evaluate contractor submittals for technical acceptability, execution feasibility and completeness; create project documents.
INTERMEDIATE	▪ Applies the codes and standards (i.e., UFGS, AFI, ETL, NFPA, etc.) when designing and operating civil systems under limited supervision; Identifies potential policy exceptions and waiver requirements ▪ Applies concepts, principles, theories, tools, financial estimates, programming, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features to include sustainable design measures related to preparation of contracts and management of personnel and facilities ▪ Applies knowledge required to evaluate subsurface soil or geologic properties and determination of the effects of loads on fitness for use of physical structures and their components, as well as those related to applied mechanics, materials science and applied mathematics to compute a structure's deformations, internal forces, stresses, support reactions, accelerations, and stability.
ADVANCED	▪ Applies concepts/principles/theories/methods related to the management of construction, contracts, and contractors ▪ Ensures compliance w/ appropriate codes/standards when designing work w/o supervision ▪ Seeks policy interpretation and waivers ▪ Interprets construction drawings/specifications to validate design complies w/applicable codes and regulations ▪ Adapts standard designs to meet user requirements and site considerations where appropriate ▪ Provides oversight/direction on multiple construction projects, directing work of subordinate project managers ▪ Benchmarks industry best practices.
EXPERT	▪ Develops applicable codes and standards for the design and operation of civil systems ▪ Research requirements, develop research, and develop needs relating to civil requirements for buildings and infrastructure systems for world-wide CE organizations ▪ Provides policy interpretation/development/waivers; brief senior leaders on progress and status of projects.

TABLE 18 SUB-COMPETENCY RUBRIC FOR 0810 CIVIL ENGINEERS – WATER RESOURCE ENGINEERING

0810 COMPETENCY –	*OCCUPATIONAL*
SUB-COMPETENCY –	**WATER RESOURCE ENGINEERING**
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Applies broad principles of engineering design. ▪ Basic understanding of NexGen IT and CE IT Platforms / Shadow Installation PMs; Interpret construction drawings and specifications to validate the construction complies with the design. ▪ Demonstrates comprehension of applicable codes and standards (i.e. UFC, UFGS, AFI, ETL, NFPA, IMC, IPC, Environmental) when designing and operating Civil systems under supervision. ▪ Coordinate with appropriate stakeholders, managers and staff during design & construction stage of projects. ▪ Evaluate contractor submittals for technical acceptability, execution feasibility and completeness; create project documents.
INTERMEDIATE	▪ Applies the codes and standards (i.e., UFGS, AFI, ETL, NFPA, etc.) when designing and operating civil systems under limited supervision; Identifies potential policy exceptions and waiver requirements. ▪ Applies concepts, principles, theories, tools, financial estimates, programming, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features to include sustainable design measures related to preparation of contracts and management of personnel and facilities.
ADVANCED	▪ Applies concepts/principles/theories/methods related to the management of construction, contracts, and contractors. ▪ Ensures compliance w/ appropriate codes/standards when designing/operating civil systems w/o supervision. ▪ Seeks policy interpretation and waivers. ▪ Interprets construction drawings/specifications to validate design complies w/applicable codes and regulations. ▪ Adapts standard designs to meet user requirements and site considerations where appropriate. ▪ Provides oversight/direction on multiple construction projects, directing work of subordinate project managers. ▪ Designs, manages, and sustains water/wastewater (including storm water) resources and facilities. ▪ Benchmarks industry best practices.
EXPERT	▪ Develops applicable codes and standards for the design and operation of civil systems. ▪ Research requirements, develop research, and develop needs relating to civil requirements for buildings and infrastructure systems for world-wide CE organizations. ▪ Provides policy interpretation/development/waivers; brief senior leaders on progress and status of projects.

TABLE 19 SUB-COMPETENCY RUBRIC FOR 0810 CIVIL ENGINEERS – TRAFFIC AND TRANSPORTATION ENGINEERING

0810 COMPETENCY –	*OCCUPATIONAL*
SUB-COMPETENCY –	TRAFFIC & TRANSPORTATION ENGINEERING
DESCRIPTION –	***placeholder***

PROFICIENCY LEVEL	OBSERVABLE BEHAVIORS
BASIC	▪ Applies broad principles of engineering design. ▪ Basic understanding of NexGen IT and CE IT Platforms / Shadow Installation PMs. ▪ Interpret construction drawings and specifications to validate the construction complies with the design. ▪ Demonstrates comprehension of applicable codes and standards (i.e. UFC, UFGS, AFI, ETL, NFPA, IMC, IPC, Environmental) when designing and operating Civil systems under supervision. ▪ Coordinate with appropriate stakeholders, managers and staff during design & construction stage of projects. ▪ Evaluate contractor submittals for technical acceptability, execution feasibility and completeness; create project documents.
INTERMEDIATE	▪ Applies the codes and standards (i.e., UFGS, AFI, ETL, NFPA, etc.) when designing and operating civil systems under limited supervision; Identifies potential policy exceptions and waiver requirements. ▪ Applies concepts, principles, theories, tools, financial estimates, programming, and methods required to observe, examine, measure, analyze, map, and describe physical and cultural features to include sustainable design measures related to preparation of contracts and management of personnel and facilities.
ADVANCED	▪ Applies concepts/principles/theories/methods related to the management of construction, contracts, and contractors. ▪ Ensures compliance w/ appropriate codes/standards when designing/operating civil systems w/o supervision. ▪ Seeks policy interpretation and waivers. ▪ Interprets construction drawings/specifications to validate design complies w/applicable codes and regulations. ▪ Adapts standard designs to meet user requirements and site considerations where appropriate. ▪ Provides oversight/direction on multiple construction projects, directing work of subordinate project managers. ▪ Benchmarks industry best practices.
EXPERT	▪ Develops applicable codes and standards for the design and operation of civil systems. ▪ Research requirements, develop research, and develop needs relating to civil requirements for infrastructure systems for world-wide CE organizations. ▪ Provides policy interpretation/development/waivers; brief senior leaders on progress and status of projects. ▪ Apply knowledge for safe and efficient control of traffic flow, such as road geometry, traffic capacity, sidewalks and crosswalks, segregated cycle facilities, shared lane marking, traffic signs, road surface markings and traffic lights, to facilitate the movement of materials and personnel.

14.4. A team of 0819 Environmental Engineers developed competency rubrics to help Environmental Engineers learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success. Tables 20-21 provide additional details on two competencies.

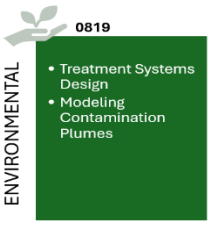


TABLE 20 COMPETENCY RUBRIC FOR 0819 ENVIRONMENTAL ENGINEERS – TREATMENT SYSTEM DESIGN

0819 COMPETENCY –	*TREATMENT SYSTEMS DESIGN*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes and standards.
INTERMEDIATE	▪ Apply the codes and standards (CERCLA, RCRA, EPA, DODI, State Env Dep). ▪ identify potential policy exceptions and waiver requirements.
ADVANCED	▪ Ensure compliance with appropriate codes and standards when designing and operating treatment systems. ▪ Seek policy interpretation and waivers.
EXPERT	▪ Develop and/or select applicable codes and standards for the design and operation of environmental restoration and/or treatment systems. ▪ Research requirements, research, and develop needs relating to existing and emerging treatment processes/systems for CE Enterprise application. ▪ Provide policy interpretation and waivers.

TABLE 21 COMPETENCY RUBRIC FOR 0819 ENVIRONMENTAL ENGINEERS – MODELING CONTAMINATION PLUMES

0819 COMPETENCY –	*MODELING CONTAMINATION PLUMES*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes and standards.
INTERMEDIATE	▪ Apply the codes and standards (CERCLA, RCRA, EPA, DODI, State Env Dep). ▪ Identify potential policy exceptions and waiver requirements.
ADVANCED	▪ Ensure compliance with appropriate codes and standards when mapping the plume through document research, iterative sampling and reporting ▪ Seek policy interpretation and waivers.
EXPERT	▪ Develop and/or select applicable codes and standards for advancing techniques in mapping and modeling contamination plumes. ▪ Research requirements, coordinate research, and develop improving the mapping and modeling of plumes for existing and emerging contaminants. ▪ Provide policy interpretation and waivers.

14.5. A team of 0830 Mechanical Engineers developed competency rubrics to help DAF Mechanical Engineers learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success. Tables 22-23 provide additional details on two competencies.

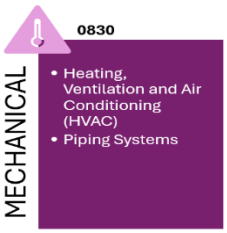


TABLE 22 COMPETENCY RUBRIC FOR 0830 MECHANICAL ENGINEERS – MECHANICAL HVAC

0830 COMPETENCY –	*MECHANICAL HVAC*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrates comprehension of applicable codes, standards and Air Force guidance when performing entry level mechanical engineering tasks. ▪ Understands and applies foundational mechanical engineering concepts in support of HVAC facility systems. ▪ Assists with mechanical systems facility inspections, mechanical design reviews, basic calculations, and contract document reviews. Is familiar with standard engineering software to support mechanical design. ▪ Participates in formal and information training to develop technical foundations and familiarity with mechanical specialty within the Civil Engineer career field. ▪ Develops understanding of base-level mechanical asset management principles and begins applying sustainment concepts with supervision.
INTERMEDIATE	▪ Independently, or with minimal supervision, performs routine mechanical engineering design and construction tasks, including HVAC design reviews, developing mechanical system statements of work, and HVAC system inspections to resolve design, construction or operational issues. ▪ Comprehends and applies mechanical engineering standards, including ASHRAE, UFC, AFIs. Manages HVAC projects across the O&M and MILCON programs with increased autonomy. ▪ Contributes to HVAC system design efforts and implements mechanical asset management principles and sustainment concepts with reduced supervisor assistance.
ADVANCED	▪ Leads planning, programming, design, and construction oversite for complex facility and infrastructure efforts across the HVAC spectrum. ▪ Serves as the technical authority for assigned projects, ensuring proper design, code adherence, and proper construction. ▪ Oversees creation and integration of Activity Management Plans using risk-based prioritization and lifecycle analysis. ▪ Resolves HVAC challenges during execution phase, partners with AFCEC, USACE, and NAVFAC on complex issues and advises contracting officers on technical matters. ▪ Applies advanced tools to design, simulate and optimize facility HVAC performance. ▪ Mentors junior mechanical engineers and participates in enterprise-wide mechanical engineering conversations.

0830 COMPETENCY –	*MECHANICAL HVAC*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
EXPERT	▪ Serves as USAF enterprise leader and technical authority for HVAC systems including infrastructure planning and policy development. ▪ Directs large scale facility engineering programs and integrates Civil Engineer portfolios with national priorities and POM/FYDP strategies. ▪ Provides subject matter expertise to the field and represents HVAC related Civil Engineer interest in congressional responses, senior leader briefings, and interagency forums. ▪ Authors enterprise policy documents and strategic frameworks. Contributes to future infrastructure posture through expert consultation.

TABLE 23 COMPETENCY RUBRIC FOR 0830 MECHANICAL ENGINEERS – MECHANICAL PIPING SYSTEMS

0830 COMPETENCY –	*MECHANICAL PIPING SYSTEMS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrates comprehension of applicable codes, standards and Air Force guidance when performing entry level mechanical engineering tasks. ▪ Understands and applies foundational mechanical engineering concepts in support of facility and utility piping systems. ▪ Assists with facility/utility inspections, design reviews, basic calculations, and contract document reviews. Is familiar with standard engineering software to support mechanical design. ▪ Participates in formal and information training to develop technical foundations and familiarity with mechanical specialty within the Civil Engineer career field. ▪ Develops understanding of base-level mechanical asset management principles and begins applying sustainment concepts with supervision.
INTERMEDIATE	▪ Performs routine mechanical engineering design and construction tasks, including facility/utility design reviews, developing mechanical system statements of work, and system inspections to resolve design, construction or operational issues with occasional guidance. ▪ Comprehends, applies, and adapts mechanical engineering standards, including ASHRAE, UFC, DAFIs. ▪ Manages plumbing / piping system projects across the O&M and MILCON programs with increased autonomy. ▪ Contributes to system design efforts and implements mechanical asset management principles and sustainment concepts.
ADVANCED	▪ Leads planning, programming, design, and construction oversite for complex facility and infrastructure efforts involving plumbing/piping systems in considerably difficult situations with minimal guidance. ▪ Serves as the technical authority for assigned projects, ensuring proper design, code adherence, and proper construction. ▪ Oversees creation and integration of Activity Management Plans using risk-based prioritization and lifecycle analysis. Resolves challenges during execution phase, partners with AFCEC, USACE, and NAVFAC on complex issues and acts as Contracting Officer Technical Representative. ▪ Applies advanced tools to design, simulate and optimize facility/utility performance. ▪ Mentors junior engineers and participates in enterprise-wide mechanical engineering conversations.

0830 COMPETENCY – *MECHANICAL PIPING SYSTEMS*	
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
EXPERT	▪ Serves as DAF enterprise leader and technical authority for plumbing/piping, facility/utility systems including infrastructure planning and policy development. ▪ Anticipates, researches, and solves unprecedented problems for world-wide CE organizations and SAF/IE initiatives involving multiple complex system and subsystem interfaces. ▪ Directs large scale facility engineering programs and integrates Civil Engineer portfolios with national priorities and POM/FYDP strategies. ▪ Provides subject matter expertise to the field including interpretation and professional reviews of waiver requests and represents related Civil Engineer interest in congressional responses, senior leader briefings, and interagency forums. ▪ Authors enterprise strategy and policy documents.

14.6. A team of 0850 Electrical Engineers developed competency rubrics to help DAF Electrical Engineers learn what behaviors are aligned to the occupation series strategic direction, the professional developmental expectations, and the criteria for success. Tables 24-27 provide additional details on two competencies.

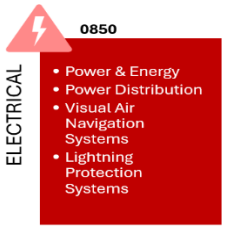


TABLE 24 COMPETENCY RUBRIC FOR 0850 ELECTRICAL ENGINEERS – POWER & ENERGY

0850 COMPETENCY –	*POWER & ENERGY*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Demonstrate Electrical Engineering competency to include ability to use prescribed methods to perform specific evaluation of contractor submittals of electrical generation criteria based on the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Incorporate electrical engineering requirements into planning, construction, operations, maintenance and sustainment of power generation and renewable energy elements. ▪ Reviews, and maintains detailed electrical drawings for power generation equipment, including generators, transformers, and switchgear, ensuring proper coordination of protection systems and compliance with applicable electrical codes and safety regulations. ▪ Participate as member in the Unit Control Center (UCC) when the emergency operations center stands up.
ADVANCED	▪ Provide recommendations to engineering and operations on power generations and renewable energy topics with interdisciplinary engineers, technicians, contractors and utility service providers. ▪ Prepares, reviews, and revises electrical drawings throughout the design, construction, and commissioning phases of power generation projects, ensuring accurate representation of system integration and adherence to project specifications. ▪ Supports field engineers and technicians in the installation and testing of electrical equipment.

0850 COMPETENCY –	*POWER & ENERGY*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of power generation systems. ▪ Capable of researching requirements and developing needs related to power generation requirements that relate to buildings and infrastructure systems.

TABLE 25 COMPETENCY RUBRIC FOR 0850 ELECTRICAL ENGINEERS – POWER DISTRIBUTION

0850 COMPETENCY –	*POWER DISTRIBUTION*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Demonstrate Electrical Engineering competency to include ability to use prescribed methods to perform specific evaluation of contractor submittals of electrical generation criteria based on the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Incorporate electrical engineering requirements into planning, construction, operations, maintenance and sustainment of power generation and renewable energy elements. ▪ Prepares, reviews, and recommends updates of electrical drawings for power distribution systems, applying knowledge of electrical codes and best practices to ensure accurate representation of system designs and safe operation. ▪ Participate as member in the Unit Control Center (UCC) when the emergency operations center stands up.
ADVANCED	▪ Provide recommendations to engineering and operations on power generations and renewable energy topics with interdisciplinary engineers, technicians, contractors and utility service providers. ▪ Collaborates with project engineers and designers to prepare, review, and revise electrical drawings for power distribution projects, ensuring seamless integration with overall system design and adherence to project specifications. Provides technical expertise and guidance to stakeholders to maintain drawing accuracy and consistency.
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of power generation systems. ▪ Capable of researching requirements and developing needs related to power generation requirements that relate to buildings and infrastructure systems.

TABLE 26 COMPETENCY RUBRIC FOR 0850 ELECTRICAL ENGINEERS – POWER VISUAL NAVIGATION SYSTEMS

0850 COMPETENCY –	*POWER VISUAL NAVIGATION SYSTEMS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Demonstrate Electrical Engineering competency for visual air navigation systems, including the ability to evaluate contractor submittals of power visual navigation systems designs and installations based on the applicable codes, standards, laws, DoW and Air Force requirements (e.g., FAA Advisory Circulars, FAA Order 6850.2B, UFC 3-535-01, AFI 32-1065, IES RP-37, ICAO Annex 14), ensuring the safety, reliability, and performance of these systems to enable safe and efficient aircraft operations. ▪ Assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Incorporate electrical engineering requirements into planning, construction, operations, maintenance and sustainment of power generation and renewable energy elements. ▪ Participate as member in the Unit Control Center (UCC) when the emergency operations center stands up. ▪ Provides technical support for facility and utility infrastructure inspections, performing electrical calculations and assisting in the design and review of contract documents. ▪ Contributes to ensuring the reliability and safety of power distribution systems, lighting, and other essential electrical infrastructure components.
ADVANCED	▪ Provide recommendations to engineering and operations on power generations and renewable energy topics with interdisciplinary engineers, technicians, contractors and utility service providers.
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of power generation systems. ▪ Capable of researching requirements and developing needs related to power generation requirements that relate to buildings and infrastructure systems.

TABLE 27 COMPETENCY RUBRIC FOR 0850 ELECTRICAL ENGINEERS – LIGHTNING PROTECTION SYSTEMS

0850 COMPETENCY –	*LIGHTNING PROTECTION SYSTEMS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, NFPA, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Demonstrate Electrical Engineering competency for lightning protection systems (LPS), including the ability to evaluate contractor submittals of LPS systems designs and installations based on the applicable codes, standards, laws, DoW and Air Force requirements, industry standards, NFPA 780, along with other standards like UL 96, and UFC 3-575-01. ▪ Assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, NFPA, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Incorporate electrical engineering requirements into planning, construction, operations, maintenance and sustainment of lightning protection systems. ▪ Participate as member in the Unit Control Center (UCC) when the emergency operations center stands up. ▪ Provides technical support for facility and utility infrastructure inspections, performing electrical calculations and assisting in the design and review of contract documents. ▪ Contributes to ensuring the reliability and safety of LPS, lighting, and other essential electrical infrastructure components.
ADVANCED	▪ Possess a mastery of foundational electrical principles, knowledge of relevant codes and standards, and advanced skills needed to design, model and manage projects. ▪ Provide recommendations to engineering and operations on LPS topics with interdisciplinary engineers, technicians, contractors and utility service providers; additionally understands and can design complex grounding networks that go beyond standard grounding rods.
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of lightning protection systems. ▪ Capable of researching requirements and developing needs related to lightning protection requirements that relate to buildings and infrastructure systems, additionally for special structures such as ammunition depots, large complex facilities, power generation facilities, etc.

14.7. Competency rubrics were also developed or those competencies that are applicable to some, but not all of the Engineer/Architect series. They are detailed in Tables 28-31.

TABLE 28 COMPETENCY RUBRIC FOR 0808/0810/0819 INVESTIGATIONS & SURVEYS

0808/0810/0819 COMPETENCY –	*INVESTIGATIONS & SURVEYS*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Knowledge of applicable codes, standards, laws, and DoW/DAF instructions for constructing, maintaining, and operating buildings and infrastructure. ▪ Demonstrate ability to perform data collection, investigations into typical or standard site and facility conditions, and conduct engineering or environmental surveys. ▪ Ability to work independently and as a multi-disciplinary team. ▪ Baseline technical skills to translate analysis into standard formats and templates.
INTERMEDIATE	▪ Ability to apply applicable codes, standards, laws and DoW/DAF instructions to an investigation to generate findings that can inform design and siting decisions. ▪ Demonstrate knowledge and ability to conduct advanced analysis including atypical, unique, or complex site, environment, and facility conditions. ▪ Knowledge of all necessary technical programs to execute analysis. ▪ Demonstrate ability to instruct junior staff on conduct investigations and surveys. ▪ Demonstrate ability to lead a multi-disciplinary team through a site or facility investigation.
ADVANCED	▪ Ensures compliance with codes, standards, laws, and DoW/DAF instructions. ▪ Assists design team with understanding/applying findings from investigation/survey to a design/siting decision. ▪ Oversees subordinates in conducting analysis, manages workload, and monitors timeliness and quality of deliverables. ▪ Ensures all deliverables are complete and accurate, and distributed to all necessary parties. ▪ Maintains currency on new and emerging issues that may generate changes to types of surveys needed or method of execution. ▪ Ability to brief installation level leadership on complex issues. ▪ Mentors and develops junior staff in best practices.
EXPERT	▪ Provides expert advice on applicable codes, standards, laws, and DoW/DAF instructions. ▪ Develops and revises guidance to address enterprise-wide requirements, changes to laws and industry standards, or corporate initiatives. ▪ Provide policy interpretation and approve / recommend approval of waivers. ▪ Develops and implements innovative solutions to address complex problems. ▪ Ability to brief Senior Leaders on complex issues, design and technical concepts or policy changes.

TABLE 29 COMPETENCY RUBRIC FOR 0830/0850 ENERGY ENGINEERING

0830/0850 COMPETENCY –	*ENERGY ENGINEERING*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEC, ASHRAE, IEEE Standards, ISO 50001, Utility agreements). ▪ Demonstrate Energy Engineering competency to include ability to use prescribed methods to perform specific evaluation of contractor submittals of electrical generation criteria based on the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEC, ASHRAE, IEEE Standards, ISO 50001, Utility agreements). ▪ Assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEC, ASHRAE, IEEE Standards, ISO 50001, Utility agreements). ▪ Incorporate electrical engineering requirements into planning, construction, operations, maintenance and sustainment of power generation and renewable energy elements. ▪ Reviews, and maintains detailed electrical drawings for power generation equipment, including generators, transformers, and switchgear, ensuring proper coordination of protection systems and compliance with applicable electrical codes and safety regulations.
ADVANCED	▪ Provide recommendations to engineering and operations on power generations and renewable energy topics with interdisciplinary engineers, technicians, contractors and utility service providers. ▪ Prepares, reviews, and revises electrical drawings throughout the design, construction, and commissioning phases of power generation projects, ensuring accurate representation of system integration and adherence to project specifications. ▪ Supports field engineers and technicians in the installation and testing of electrical equipment.
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of power generation systems. ▪ Capable of researching requirements and developing needs related to power generation requirements that relate to buildings and infrastructure systems.

TABLE 30 COMPETENCY RUBRIC FOR 0830/0850 CONTROL SYSTEMS ENGINEERING

0830/0850 COMPETENCY –	*CONTROL SYSTEMS ENGINEERING*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Demonstrate competency in control systems engineering, including the ability to evaluate contractor submittals for control system designs and implementations based on based on the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC Article 700-702, NFPA 70E, AFI 32-1062, 1063, 1064, 1065, AFMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements), ensuring safety, reliability and performance of automated control systems for critical infrastructure. ▪ Participate and assists with facility and utility infrastructure inspections, basic calculations, design and contract document reviews. ▪ Demonstrate technical computer skills for computers software such as computer aided design and drafting (CADD) programs, project tracking programs and other information technology programs (Words, Excel, and PowerPoint).
INTERMEDIATE	▪ Apply the applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements) ▪ Incorporate control systems engineering requirements into planning, construction, operations, maintenance and sustainment of facility related control systems. ▪ Coordinate requirements with stakeholders to create parametric cost estimates in preparing project estimates for FY budgeting and planning.
ADVANCED	▪ Provide recommendations to engineering and operations on control systems topics with interdisciplinary engineers, technicians, contractors and utility service providers. ▪ Represents the squadron at planning for ensuring maintaining systems authority to operate and other cybersecurity requirements throughout the lifecycle of the systems. ▪ Analyzes needs assessments in related to control system security. Competently recommending potential innovative enhancements to continuous monitoring architectures, incorporating robust security measures and proactively addresses evolving cyber threats that minimize potential risks to electrical system operations.
EXPERT	▪ Demonstrate ability to explain or provide interpretation of applicable codes and standards for the design and operations of power generation systems. ▪ Capable of researching requirements and developing needs related to power generation requirements that relate to buildings and infrastructure systems. ▪ Expertise in aligning mission, policy and organizational values that may affect design solutions and strategies.

TABLE 31 COMPETENCY RUBRIC FOR 0808/0830/0850 FIRE PROTECTION

0808/0830/0850 COMPETENCY –	*FIRE PROTECTION*
PROFICIENCY LEVEL	**OBSERVABLE BEHAVIORS**
BASIC	0808/830/0850 ▪ Demonstrate comprehension of applicable codes, standards, laws, DoW and Air Force requirements (e.g., NEC, AFI 32-1062, 1063, 1064, 1065, AFJMAN 32-1082, 1083 NESC, Industry Standards, CFR, NERC, FERC, UFC 3-500 series, AF ETLs, IEEE Standards, Utility agreements). ▪ Applies limited skills in somewhat difficult situations.
INTERMEDIATE	0808 ▪ Understands, identifies and applies applicable fire protection codes, standards, laws, and DoW/DAF instructions to a project. ▪ Demonstrates knowledge and understanding of NFPA 101, NFPA 3 & NFPA 13 codes. 0830/0850 ▪ Applies competency in difficult situations.
ADVANCED	0808 ▪ Ensures compliance with fire protection codes, standards, laws, and DoW/DAF instructions. 0830/0850 ▪ Applies competency in considerably difficult situations.
EXPERT	0808 ▪ Provides expert advice on applicable fire protection codes, standards, laws, and DoW/DAF instructions. 0830/0850 ▪ Applies competency in exceptionally difficult situations and serves as a key resource advisor.

15 Level of Competency. Tables 32-37 provide examples of an individualized competency map for each Engineer/Architect series and demonstrates which level of competency, Beginner (1), Intermediate (2), Advanced (3) and Expert (4) is required for each of the general series competencies. The employee and supervisor should discuss where the employee may need to improve their knowledge, skills and abilities related to a competency and how to obtain that experience. The competency map will be different for each employee depending on their individual Position Description (PD). Employees should use this table with their supervisor as a training roadmap. A blank competency map that can be adjusted individually between employees and supervisors is in Part II Section C.

TABLE 32 COMPETENCY LEVELS, 0801 GENERAL ENGINEER

0801 COMPETENCIES – CEN	
Competency – CONSTRUCTION/PROJECT MANAGER	**Proficiency Level**
Facilities Engineering	1-2
Design Engineering	1-2
Portfolio/Asset Management	1-2
Construction Cost Estimating	1-2
Competency – PROGRAM MANAGEMENT	**Proficiency Level**
Facilities Engineering	3
Design Engineering	3
Portfolio/Asset Management	2
Construction Cost Estimating	3
Competency – EXECUTION ELEMENT CHIEF	**Proficiency Level**
Facilities Engineering	3
Design Engineering	4
Portfolio/Asset Management	3-4
Construction Cost Estimating	4
Competency – INSTALLATION PROGRAMMER	**Proficiency Level**
Facilities Engineering	2
Design Engineering	1-3
Portfolio/Asset Management	1-2
Construction Cost Estimating	3
Competency – PORTFOLIO OPTIMIZATION CHIEF	**Proficiency Level**
Facilities Engineering	3
Design Engineering	3
Portfolio/Asset Management	3
Construction Cost Estimating	4

0801 COMPETENCIES – CEO	
Competency – REQUIREMENTS AND OPTIMIZATION	**Proficiency Level**
Facilities Engineering	1-2
Design Engineering	1-2
Portfolio/Asset Management	1-2
Construction Cost Estimating	3
Competency – OPERATIONS MANAGER	**Proficiency Level**
Facilities Engineering	3
Design Engineering	3
Portfolio/Asset Management	3
Construction Cost Estimating	4
0801 COMPETENCIES – SUPERVISOR	
Competency – BCE, DBCE, FLIGHT CHIEF	**Proficiency Level**
Facilities Engineering	4
Design Engineering	4
Portfolio/Asset Management	4
Construction Cost Estimating	4

TABLE 33 COMPETENCY LEVELS, 0808 ARCHITECT

0808 COMPETENCIES – CEN	
CENM Competency – PROJECT EXECUTION/MANAGEMENT	**Proficiency Level**
Built Environment Analysis	2-3
Project Development and Design	2-3
Construction Administration/Management	2-3
CENP Competency – PORTFOLIO OPTIMIZATION	**Proficiency Level**
Built Environment Analysis	2
Project Development and Design	2
Construction Administration/Management	1-2
0808 COMPETENCIES – CEO	
CEOE Competency – OPERATIONS ENGINEERING	**Proficiency Level**
Built Environment Analysis	2
Project Development and Design	2
Construction Administration/Management	2
0808 COMPETENCIES – INTERIM HQ	
Competency – AFIMSC/CE or AFCEC/CF	**Proficiency Level**
Built Environment Analysis	3-4
Project Development and Design	3-4
Construction Administration/Management	3-4
Competency – MAJCOM or NGB A4C	**Proficiency Level**
Built Environment Analysis	3-4
Project Development and Design	3-4
Construction Administration/Management	3

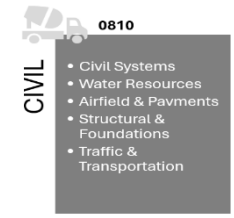


TABLE 34 COMPETENCY LEVELS, 0810 CIVIL ENGINEER

0810 COMPETENCIES – CEN	
Competency – PROJECT MANAGER	**Proficiency Level**
Civil Systems	1-2
Airfield and Pavement Engineering	1-2
Structural and Foundation Engineering	1-2
Water Resource Engineering	1-2
Traffic and Transportation Engineering	1-2
Competency – PROGRAM MANAGEMENT CHIEF	**Proficiency Level**
Civil Systems	2-3
Airfield and Pavement Engineering	2-3
Structural and Foundation Engineering	2-3
Water Resource Engineering	2-3
Traffic and Transportation Engineering	2-3
Competency – ENGINEERING FLIGHT CHIEF	**Proficiency Level**
Civil Systems	2-3
Airfield and Pavement Engineering	2-3
Structural and Foundation Engineering	2-3
Water Resource Engineering	2-3
Traffic and Transportation Engineering	2-3

Competency – INSTALLATION PROGRAMMER	Proficiency Level
Civil Systems	1
Airfield and Pavement Engineering	1
Structural and Foundation Engineering	1
Water Resource Engineering	1
Traffic and Transportation Engineering	1
Competency – PORTFOLIO OPTIMIZATION CHIEF	**Proficiency Level**
Civil Systems	1-2
Airfield and Pavement Engineering	1-2
Structural and Foundation Engineering	1
Water Resource Engineering	1-2
Traffic and Transportation Engineering	1
0810 COMPETENCIES – CEO	
Competency – OPERATIONS ENGINEERING	**Proficiency Level**
Civil Systems	1
Airfield and Pavement Engineering	1
Structural and Foundation Engineering	1
Water Resource Engineering	1
Traffic and Transportation Engineering	1
Competency – OPERATIONS ENGINEERING	**Proficiency Level**
Civil Systems	2
Airfield and Pavement Engineering	2
Structural and Foundation Engineering	2
Water Resource Engineering	2
Traffic and Transportation Engineering	2

0810 COMPETENCIES – INTERIM HQ	
Competency – SME	**Proficiency Level**
Civil Systems	4
Airfield and Pavement Engineering	4
Structural and Foundation Engineering	4
Water Resource Engineering	4
Traffic and Transportation Engineering	4

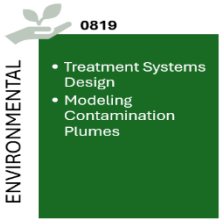


TABLE 35 COMPETENCY LEVELS, 0819 ENVIRONMENTAL ENGINEER

0819 COMPETENCIES	
Competency – INSTALLATION	**Proficiency Level**
Treatment Systems Design	1-2
Modeling Contamination Plumes	1-2
Competency ISS	**Proficiency Level**
Treatment Systems Design	3
Modeling Contamination Plumes	2
Competency – EXTERNAL AGENCIES	**Proficiency Level**
Treatment Systems Design	2-3
Modeling Contamination Plumes	4
Competency – SME	**Proficiency Level**
Treatment Systems Design	3-4
Modeling Contamination Plumes	3-4

TABLE 36 COMPETENCY LEVELS, 0830 MECHANICAL ENGINEER

0830 COMPETENCIES	
Competency – CENM	**Proficiency Level**
HVAC	3
Piping Systems	2-3
Competency CEOE	**Proficiency Level**
HVAC	2
Piping Systems	2
Competency – INTERIM HQ (SME)	**Proficiency Level**
HVAC	4
Piping Systems	4

TABLE 37 COMPETENCY LEVELS, 0850 ELECTRICAL ENGINEER

0850 COMPETENCIES	
Competency – CENM	**Proficiency Level**
Power and Energy	3
Power Distribution	3
Visual Air Navigation Systems	2
Lightning Protection Systems	2
Competency - CEOE	**Proficiency Level**
Power and Energy	2
Power Distribution	2
Visual Air Navigation Systems	3
Lightning Protection Systems	3
Competency – AFCEC (SME)	**Proficiency Level**
Power and Energy	4
Power Distribution	4
Visual Air Navigation Systems	4
Lightning Protection Systems	4

TABLE 38 COMPETENCY LEVELS, MULTIPLE SERIES

MULTI-SERIES COMPETENCIES – CEN	
Competency – CONSTRUCTION/PROJECT MANAGER	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	2-3
Energy Engineering (0830/0850)	3
Control Systems Engineering (0830/0850)	2
Fire Protection (0808/0830/0850)	3
Competency – PROGRAM MANAGEMENT	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	2-3
Energy Engineering (0830/0850)	
Control Systems Engineering (0830/0850)	
Fire Protection (0808/0830/0850)	
Competency – EXECUTION ELEMENT CHIEF	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	2-3
Energy Engineering (0830/0850)	
Control Systems Engineering (0830/0850)	
Fire Protection (0808/0830/0850)	
Competency – INSTALLATION PROGRAMMER	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	1-2
Energy Engineering (0830/0850)	
Control Systems Engineering (0830/0850)	
Fire Protection (0808/0830/0850)	
Competency – PORTFOLIO OPTIMIZATION CHIEF	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	1-2
Energy Engineering (0830/0850)	
Control Systems Engineering (0830/0850)	
Fire Protection (0808/0830/0850)	

0801 COMPETENCIES – CEO	
Competency – REQUIREMENTS AND OPTIMIZATION	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	1
Energy Engineering (0830/0850)	3
Control Systems Engineering (0830/0850)	3
Fire Protection (0808/0830/0850)	
Competency – OPERATIONS MANAGER	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	1
Energy Engineering (0830/0850)	
Control Systems Engineering (0830/0850)	
Fire Protection (0808/0830/0850)	
0801 COMPETENCIES – SUPERVISOR	
Competency – BCE, DBCE, FLIGHT CHIEF	**Proficiency Level**
Investigations and Surveys (0808/0810/0819)	2-3
Energy Engineering (0830/0850)	4
Control Systems Engineering (0830/0850)	4
Fire Protection (0808/0830/0850)	

The competency model can also serve as a lynchpin across many existing facets of personnel development. The information within the competency models allows Airmen to see how their training, education, and experiences are aligned to the career field's strategic objectives.

16. Request for DAF Training. This section identifies known resource constraints that may impact the training and education outlined in this CFETP. The primary mechanism for allocating formal training is the annual Department of the Air Force (DAF) data-call, a highly competitive process where not all requirements will be funded. Therefore, commanders, supervisors, and trainers must judiciously manage all available fiscal, manpower, and facility resources to support the force development of our Airmen. With supervisor's approval, employees can request to attend training and education opportunities to increase their occupational knowledge, skills, and abilities. There are multiple ways DAF employees can follow to obtain approval and funding to attend training and education opportunities.

16.1. Functional Training Data-call. The DAF has program element code 88751F to fund civilian functional/occupational training requirements across major commands, field operating agencies, direct reporting units, and force development flights. To identify annual training needs for the fiscal year, the Deputy Chief of Staff-Manpower, Personnel, and Services (AF/A1) issues a data-call to receive inputs using the Civilian Automated Training Input Program for DAF-wide consolidation. Funding for training is prioritized based on priority (Table 39). Due to limited resources, funding focuses on priority 1 requirements. Employees should discuss with their supervisor how to add their training/education need(s) to the data call response. To aid in this deliberate and prioritized approach to training, commanders must prioritize nominees for formal training in accordance with the following levels. This ensures limited training seats are allocated with maximum mission impact.

TABLE 39 TRAINING FUNDING PRIORITIES

Priority	Definition
1	Required by Public Law, Executive Order, DoW Directive (to include occupational certification and licensing, as defined in position description as a condition for continued employment). Priority indicator is classified as "Critical/Mandated."
2	Maintains and develops critical occupational/functional competencies identified by DAF publications or other guidance. Priority indicator is classified as "Essential."
3	Maintains and develops critical occupational/functional competencies as directed or identified by DAF MAJCOM (e.g., publications, memoranda). Priority indicator is classified as "Recommended."
4	Maintains and develops critical occupational/functional competencies as directed or identified by DAF installation (e.g., publications, memoranda). Priority indicator is classified as "Recommended."

16.2. Tuition Assistance (TA). This competency-based CFETP is the primary tool for making smart, targeted training decisions in a resource-constrained environment. It allows leaders to identify the precise competencies needed and tailor training plans accordingly. Beyond limited formal training seats, personnel are highly encouraged to pursue other opportunities. The Air Force Tuition Assistance (TA) program is a valuable resource for pursuing certifications and academic degrees that align with this plan. This, combined with maximizing on-the-job training (OJT), ensures that limited resources are invested where they will have the greatest impact on building technical proficiency.

16.3. For more information on CTAP, see the Civil Engineer Civilian Career Field Development Playbook **HERE**. CTAP is covered in Section 1.3 in the Playbook

16.4. Leaders at all levels must seek innovative and cost-effective solutions to meet their training requirements. This includes leveraging opportunities for local training, virtual and distributed learning, and partnerships with other organizations. While constraints are a reality, they do not diminish our commitment to the goal. Through deliberate planning, strategic prioritization, and resourceful leadership—guided by this CFETP—we will continue to develop the world-class architects and engineers our Air Force requires.

SECTION E: TRANSITION TRAINING - NOT USED

17. This section of a standard CFETP is used in military CFETPs to provide training recommendations for retiring military personnel. It is not applicable for civil service positions.

PART II – TRAINING

SECTION A: SPECIALTY TRAINING STANDARD

18. Specialty Training. This section includes a list of formal training requirements for Engineers/Architects, as they progress through their careers. It is expected that Engineers/Architects will continue learning in their respective fields, so they are competent in the design, project management, and supervision of construction that align within their conferred degree. This index is not all inclusive and is a general guide to assist Engineers/Architects achieve career goals. A more comprehensive list of courses can be found through myFSS, which links to AFIT, WAU, CD, and MyVector which contain course catalogs for their various programs. Additional sources include professional organizations.

Career paths generally align with being a DBCE at base level, SME at AFCEC or HHQ, or executive leadership roles at the command, AFCEC, HAF or SAF levels; and acquisition coding is highly desirable or required for engineering positions. Engineers/Architects can use their Individual Development Plan on MyVector to establish goals and to identify the training requirements to achieve those goals. The Individual Development Plan should be a living document, revised as you advance in your career or as short/long range goals change.

18.1 Required Training. All members in supervisory positions are required to take both WENG 170, Cybersecurity for Control Systems and WENG 370, Cybersecurity for CE Leaders. It is preferred to have this training completed prior to assuming a supervisory role; however, its completion should be no later than within the first year as a new supervisor. **Note.** If the member has previously completed this training, the requirement is met.

TABLE 40 ENGINEER/ARCHITECT POSITION TRAINING REQUIREMENTS MATRIX

	Facilities Engineering	Portfolio/Asset Management	Specialization	Project Management	Cost Estimating	Real Property Management	Environmental	Add'l recommended courses
AFCEC PM Boot Camp								
AFIT Course for Microsoft Office (TBD)	X							
AFIT Course on Construction Documents and Quality Control Methodology (TBD)	X							
AFIT Real Property 101 (T) F/S Management Real Property on MyLearning (T)						X		
Courses for hazardous building materials (identification, management, and disposal) (T)							X	X
WAU BCE 1000 Fundamentals of Cost Est								
WAU CONS 0590 Management of Subcontracting Compliance								
Design, Analysis, and Project Mgmt (T)	X							X
Environmental Permits (base level) (E)							X	X
Management and Supervisor Courses							X	X
Real Estate Economics for Property Management (T)						X		X
Senior Leadership Courses (T)	X							
USACE Civil Cost Works Engineering (T)		X			X			
USACE Cost Risk Analysis (T)					X			
USACE Economic Analysis MILCON (T)					X			X
USACE Estimating for Construction Modifications (T)					X			X
USACE PROSPECT Course 1								
USACE PROSPECT Course 2								
USACE Real Estate Acquisition 101 (T)						X		X
USACE Real Estate Acquisition 201 (T)						X		X
USACE Real Estate Management & Disposal 101 (T)						X		X
USACE Real Estate Management & Disposal 201 (T)						X		X
USACE Value Engineering (T)					X			
WENG 170 Cyber Security for Control Systems		X						
WENG 200 Scoping and Estimating (T)	X	X			X			
WENG 285 Engineering for a Contested Environment (T)	X							X
WENG 370 Control Systems Cybersecurity for CE Leaders (T)	X							
WENG 400 LifeCycle Cost Estimating (T)		X	X		X			
WENG 402 Refresher Course for Life-Cycle Cost Estimating (T)		X						
WENG 440 Roofing Design and Management Course (T)			X					
WENG 460 Intro to Mechanical Systems (T)			X					
WENG 466 Facility Energy Manager (T)	X	X						

	Facilities Engineering	Portfolio/Asset Management	Specialization	Project Management	Cost Estimating	Real Property Management	Environmental	Add'l recommended courses
WENG 470 Intro to Electrical Systems (T)			X					
WENG 500 – Cost Engineering (T)					X			
WENG 519 Air Force Installation Planning Principles (T)		X				X		
WENG 520 Comprehensive Planning and Development (T)		X						
WENG 550 Airfield Pavement Design and Maintenance (T)			X					
WENG 555 Airfield Pavement Construction Inspection (T)	X		X					
WENG 560 Fundamentals of HVAC Design and Analysis (T)			X					
WENG 561 Applications of HVAC Design and Analysis (T)			X					
WENG 562 Facility Plumbing Systems (T)			X					
WENG 563 HVAC Control Systems (T)			X					
WENG 572 Facility Electrical Power System Design (T)			X					
WENG 573 Electrical Power Distribution Design and Analysis (T)			X					
WENG 576 Electrical Power System Design Capstone (T)			X					
WENV 021 Intro to Environmental Restoration (T)							X	
WENV 101 Intro to Environmental Mgmt (T)							X	
WENV 417 Environmental Restoration Project Management (T)							X	
WENV 418 Environmental Contracting Course (T)							X	
WENV 450 EIAP Course (T)		X					X	
WESS 031 Construction Site Stormwater Seminar (T)			X	X			X	
WESS 150 Proponent Responsibilities in EIAP Seminar (T)		X	X	X			X	
WESS 250 Early Considerations for EIAP (T)		X		X			X	
WHSS 404 General Officer Quarters Management (T)		X				X		
WMGT 100 AF Civil Engineer Basic Civilian (T)	X	X		X				
WMGT 131 SMS Builder Level 1 (T)	X	X						
WMGT 141 SMS Paver 1 (T)	X	X						
WMGT 231 SMS Builder Level 2 (T)		X						
WMGT 301 Intro to Asset Management (T)	X	X				X		
WMGT 322 Intro to Project Management (T)				X				
WMGT 400 Civil Engineering Command (T)	X		X					
WMGT 402 Unaccompanied Housing Leadership (T)			X					
WMGT 406 Senior Housing Manager Course (T)			X					
WMGT 410 Readiness and Emergency Management Flight Leadership (T)			X					
WMGT 412 Fundamentals of Financial Management in Civil Engineering (T)	X	X						
WMGT 417 Activity Management (T)		X						
WMGT 420 Engineering Flight Leadership (T)		X		X				

	Facilities Engineering	Portfolio/Asset Management	Specialization	Project Management	Cost Estimating	Real Property Management	Environmental	Add'l recommended courses
WMGT 421 Contracting for CE (T)	X	X		X				
WMGT 422 Project Management Course (T)		X		X				
WMGT 423 Project Programming (T)	X	X						
WMGT 430 Operations Flight Management (T)	X							
WMGT 436 Requirements and Optimization (T)	X	X	X					
WMGT 513 Financial Management for CE Leaders (T)	X	X						
WMGT 531 Installation Management Flight Leadership (T)							X	
WMGT 590 Joint Engineer Operations Course (T)		X						X
WMGT430 Operations Flight Management (T)	X							
WMSS 500/502 PMP Exam Preparatory Seminar/Reimbursement (C)				X				
WTSS 200 Estimating with PACES (T)		X		X	X			

Colors on the Table correspond to Figure 3, the AF Foundational Competency Model

Developing Self Developing Others Developing Ideas Developing Organizations

18.2. Micro-credentialing is a form of short, focused, competency-based learning that certifies mastery in a specific skill or subject, often culminating in a digital badge or certificate. Unlike traditional degree programs, which can take years to complete, micro-credentials can often be earned quicker and are highly flexible, allowing learners to study online or in-person depending on the course requirements. They are competency-based, meaning learners must demonstrate mastery of the subject matter rather than simply attend classes.

Learners typically enroll in a series of courses that focus on a particular skill, such as Installation Programming, Design and Construction Project Management, or Service Contractor Management. Upon completion, a digital badge or certificate will be awarded, which can be indicated in MyVector, embedded in resumes, and verified by the CE Career Field. These credentials provide verified proof of competency, helping learners showcase their skills to current or prospective employers.

Micro-credentialing represents a modern, flexible approach to lifelong learning, bridging the gap between traditional education and the rapidly evolving demands of the workforce. By earning micro-credentials, individuals can demonstrate expertise, enhance employability, and adapt to new technologies or career paths without committing to long-term degree programs.

TABLE 41 MICROCREDENTIALING MATRIX

	Engineering Flight Chief	Engineering Project Management Chief	SABER Chief	Installation Programmers (Level 1)	Installation Programmers (Level 2)	Installation Programmers (Level 3)	Design & Construction Project Managers (Level 1)	Design & Construction Project Managers (Level 2)	Requirements & Optimization Chief	Service Contract Manager	Deputy / Base Civil Engineer
AFCEC PM Boot Camp							X	X			
WAU BCE 1000 Fundamentals of Cost Est										X	
WAU CONS 0590 Management of Subcontracting Compliance										X	
USACE PROSPECT Course 1							X				
USACE PROSPECT Course 2								X			
WENG 170 Cyber Security for Control Systems						X					
WENG 200 Scoping and Estimating (T)	X	X	X	X					X	X	
WENG 370 Control Systems Cybersecurity for CE Leaders (T)	X										
WENG 400 LifeCycle Cost Estimating (T)				X			X	X			
WENG 402 Refresher Course for Life-Cycle Cost Estimating (T)					X						
WENV 450 EIAP Course (T)						X					
WMGT 131 SMS Builder Level 1 (T)				X					X		
WMGT 141 SMS Paver 1 (T)									X		
WMGT 231 SMS Builder Level 2 (T)					X						
WMGT 301 Intro to Asset Management (T)		X	X	X					X	X	
WMGT 322 Intro to Project Management (T)		X	X				X	X		X	
WMGT 417 Activity Management (T)					X				X		
WMGT 420 Engineering Flight Leadership (T)	X										
WMGT 421 Contracting for CE (T)	X	X	X			X	X	X	X	X	
WMGT 422 Project Management Course (T)		X	X			X				X	
WMGT 423 Project Programming (T)	X	X	X	X							
WMGT 436 Requirements and Optimization (T)					X				X		
WMGT 513 Financial Management for CE Leaders (T)	X					X					
WTSS 200 Estimating with PACES (T)				X							

Colors on the Table correspond to Figure 3, the AF Foundational Competency Model
Developing Self Developing Others Developing Ideas Developing Organizations

19. Reserved for Future Use

20. This Blank Competency Map may be refined for use by employees and supervisors.

TABLE 42 BLANK COMPETENCY MAP

0xxx COMPETENCIES	
Competency – xxx	**Proficiency Level**
Competency – cxxx	**Proficiency Level**
Competency – xxx	**Proficiency Level**

21. Purpose. This section of the CFETP provides a proposed, non-exhaustive list of professional engineering[1], technical[2] and non-technical (i.e., managerial)[3] training available for the facilities engineering, engineering design, portfolio/asset management, and cost engineering competencies applicable to a General Engineer (0801).Detailed information on the training opportunities are available from various governmental and non-governmental online sources including Education & Training Course Announcements **(ETCA)**, Air Force Institute of Technology – CE School (**AFIT-CE**), Warfighting Acquisition University (**WAU**), U.S. Army Corps of Engineers – Learning Center (**USACE-ULC**), etc.

21.1. Air Force Supervisory Courses. Supervisors play a key role in the success of the employees she/he manages and Performance Management is the key tool by which supervisors establish the organization culture. The Best Management Practices (BMPs) are Planning, Monitoring, Developing, Rating, and Rewarding (PMDR2). Planning creates organizational goals and accountability for the employee and assists with professional development. Monitoring allows the supervisor to provide feedback to the employee to reach the goals identified in the planning stage. Developing is where constant improvement process is implemented aligning with supervisor and employee goals. Rating identifies employee strengths and weaknesses and allows the employee to create a plan for the employee to be successful. Rewarding is the process of reinforcing positive behaviors and discouraging negative behavior. The following courses provide the foundational skills required by supervisors throughout the DAF independent of job series meeting the objectives of OPM Performance Management.

FIGURE 5 PERFORMANCE MANAGEMENT ROADMAP

Performance Management Roadmap FOR SUCCESSFUL WORKFORCE MANAGEMENT AND ESTABLISHING THE CULTURE OF THE ORGANIZATION.

[1] Office of Personnel Management (OPM). "Classifying General Schedule Positions – 0800 Engineering and Architecture Group." OPM. **HTTPS://WWW.OPM.GOV/POLICY-DATA-OVERSIGHT/CLASSIFICATION-QUALIFICATIONS/CLASSIFYING-GENERAL-SCHEDULE-POSITIONS/STANDARDS/0800/GS0800P.PDF** (accessed February 08, 2026)

[2] OPM. "Classifying General Schedule Positions – 0800 Engineering and Architecture Group." OPM. **HTTPS://WWW.OPM.GOV/POLICY-DATA-OVERSIGHT/CLASSIFICATION-QUALIFICATIONS/CLASSIFYING-GENERAL-SCHEDULE-POSITIONS/STANDARDS/0800/GS0800T.PDF** (accessed February 08, 2026)

[3] OPM. "Performance Management Toolkit – Supervisors." OPM. **HTTPS://WWW.OPM.GOV/POLICY-DATA-OVERSIGHT/PERFORMANCE-MANAGEMENT/PERFORMANCE-MANAGEMENT-TOOLKIT/#URL=SUPERVISORS** (accessed February 08, 2026)

21.1. DAF New Supervisory Course (MAFHRMS425). The New Supervisors Course (NSC) was developed to meet federal requirements contained in Title 5 of the Code of Federal Regulations and the National Defense Authorization Act of 2010. It is a federally mandated requirement for all first-time supervisors of civilian employees to complete within one year of becoming a supervisor. The course covers topics mandated by the Department of War (DoW) Supervisory Learning and Evaluation Framework. It gives supervisors of civilian employees a sound foundation in supervisory skills and fundamentals. Per a 27 February 2017 AF/A1 policy memorandum, mandatory training must be accomplished during the duty day. Information on Civilian Leadership Development School (CLDS) Supervisor courses **HERE**. Search for the current NSC registration link on MyLearning – Library **HERE**.

21.2. DAF Civilian Manager Development Course – Initial (MAFHRMS423). The Civilian Manager Development Course – Initial (CMDC-I) was developed to meet federal requirements contained in Title 5 of the Code of Federal Regulations and the National Defense Authorization Act of 2010. It is a federally mandated requirement for all first-time Civilian managers to complete within one year of becoming a manager. The course covers topics mandated by the Department of War (DoW) Managerial and Supervisory Learning and Evaluation Framework. It gives Civilian managers a sound foundation in supervisory skills and manager fundamentals. Per a February 27, 2017, AF/A1 policy memorandum, mandatory training must be accomplished during the duty day. Information on Civilian Leadership Development School (CLDS) Manager courses **HERE**. Search for the current NSC registration link on MyLearning – Library.

21.3 DAF Civilian Manager Development Course – Refresher (MAFHRMS422). The Civilian Manager Development Course – Refresher (CMDC-R) was developed to meet federal requirements contained in Title 5 of the Code of Federal Regulations and the National Defense Authorization Act of 2010. It is a federally mandated requirement for all Civilian managers to complete every three years after completion of the DAF New Manager Course or the Civilian Manager Development Course - Initial. The course covers topics mandated by the Department of War (DoW) Managerial and Supervisory Learning and Evaluation Framework. It reinforces supervisory skills and manager fundamentals for Department of the Air Force Civilian managers. Per a February 27, 2017, AF/A1 policy memorandum, mandatory training must be accomplished during the duty day. Information on Civilian Leadership Development School (CLDS) Manager courses **HERE**. Search for the current NSC registration link on MyLearning – Library **HERE**.

21.4. Military Personnel Management Course (MAFHRMS416). The Military Personnel Management Course (MPMC) is designed for civilians who are first-level supervisors of Department of the Air Force (DAF) military personnel. While not required, sister service military personnel supervising DAF military personnel are permitted to attend. The course covers topics mandated by the DAF providing supervisors with a foundation in supervisory skills, fundamentals, and DAF requirements to supervise DAF military personnel. Per AF/A1 guidance, civilians who also currently serve in the Air Force Reserve (AFR) or Air National Guard (ANG), or retired from DAF active duty, AFR, or ANG within the past five years from course start are eligible for a waiver/exemption. Information on Civilian Leadership Development School (CLDS) Supervisor courses (https://www.airuniversity.af.edu/CLDS/Schedule-of-Classes-and-Enrollment-Links/#leadership-development-courses). Search for the current NSC registration link on MyLearning – Library **HERE**

21.5. Experienced Supervisor Course (MAFHRMS420). The Experienced Supervisor Course (ESC) was developed to meet federal requirements contained in Title 5 of the Code of Federal Regulations and the National Defense Authorization Act of 2010. It satisfies the federal requirement for supervisory refresher training at least once every three years after completing the initial supervisory courses and is required for civilian supervisors with supervisory code 1, 2, and 4 as well as military supervisors of Department of the Air Force (DAF) federal civilian employees. The course covers topics mandated by the Department of War (DoW) Supervisory Learning and Evaluation Framework. Information on Civilian Leadership Development School (CLDS) Supervisor courses (https://www.airuniversity.af.edu/CLDS/Schedule-of-Classes-and-Enrollment-Links/#leadership-development-courses). Search for the current NSC registration link on MyLearning – Library **HERE**

21.6. Civil Engineering Courses. Table –The tables below cover courses designed to enhance the knowledge and skills of General Engineers both new to the DAF and those new to CE. The courses are presented by the appropriate tier-level (e.g., foundational, expert, etc.) in the engineer's career and by occupational competencies for a General Engineer: (1) Facilities Engineering, (2) Engineering Design, (3) Portfolio/Asset Management, and (4) Cost Engineering. This section identifies and provides a description of the recommended training, education, professional development, and experience to empower General Engineers working at the installation-, MAJCOM-, and/or Enterprise-level. The courses define a path from Foundational to Strategic. Courses are taught by AFIT, Civil Engineer School, U.S. Army Corps Engineers – Learning Center, Defense Acquisition University, etc. Professional career training opportunities are reviewed annually by the Education and Training Review Committee of the DAF to ensure courses meet the educational needs of the officers, enlisted and civilians of the general engineer series (0801) within the civil engineer career field.

21.7. Training Tiers. The formal training requirements for general engineers cover the first three years through late career strategic positions. Since the requirements for a general engineer is experience in two or more engineering disciplines, the general engineer incumbent is assumed to have the required foundational courses in architecture (0808), civil engineering (0810), mechanical engineering (0830), and/or electrical engineering (0850). Courses in the PAQ intern program Individual Development Plan (IDP) satisfy this requirement. For more info on PAQ training requirements, visit **HERE** or reach out to the CE PAQ program at AFPC.DPZCD.CEPAQProgram@us.af.mil.

21.8. Tier 1. Foundational Courses are required to be completed with the first three years after Entrance on Duty (EOD) for a general engineer, which is typically a supervisory position.

21.9. Tier 2. Advanced Skills Courses cover advanced required skill courses during years 3 – 5 from initial general engineer EOD and specialty area courses to consider taking during years 4 through 6 after EOD.

21.10. Tier 3. Expert/Specialization Skills Courses include preparing general engineers to seek senior installation-level (i.e., Group- or Wing-level) or enterprise positions for years 5 – 10 from initial EOD for general engineer position.

21.11. Tier 4. Strategic Skills Courses prepare general engineers for Branch Chief and/or Strategic Enterprise-level late career positions.

21.12. Tier 1 (Foundational Skills).

TABLE 43 FOUNDATIONAL SKILLS

(next page)

TIER 1: FOUNDATIONAL SKILLS – FIRST THREE YEARS				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Air Force Culture / Organization	The New Employee Orientation (NEO) is designed to prepare newly hired civilian personnel to be more effective in their roles as Department of the Air Force (DAF) civilian employees. It provides an introductory understanding of DAF culture with its unique mission, structure, values, and culture. The course covers institutional, developmental, and pertinent information through awareness of topics such as the DAF Civilian Oath of Office and History, Structure, Mission & GPC, DAF Culture, and DAF Training & Development. You will also finish the course with a partially completed Individual Development Plan (IDP).	DAF Civilian New Employee Orientation (NEO) Asynchronous course via MyLearning (aka Learning Management System [LMS])	All DAF civilians are required to complete this training within their first 90 days of hire.	**MAFHRMS419** Course dates will change. The link above uses "New Employee Orientation" search phase from MyLearning Course Library
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineering	This course focuses on how to improve the preparation, quality, and focus of the Statement of Work (SOW) as used to acquire the optimum performance and/or services needed for successful outcomes for mission accomplishment. This includes the Statement of Objectives (SOO), and the Performance Work Statement (PWS). The purpose, preparation and evaluation strategies are identified for the SOO, SOW and PWS. The course covers the roles and responsibilities of the key players in the requirements generation process. It speaks to how the Work Breakdown Structure (WBS) is used as a guide for SOO/SOW preparation. This includes how evaluation factors in the (RFP) are utilized during the source selection process to identify technical requirements.	ACQ 0310 Improved Statement of Work (WAU) Online, self-paced learning	Required within first 90 days of EOD (3 hours)	**ACQ 0310**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineering	This course introduces the learner to basic common terminology and concepts used in DoW acquisition financial management and cost analysis. The purpose of this course is to provide financial managers and cost estimators with foundational knowledge on topics relating to requirements generation, financial management, cost estimating, ethics, Earned Value Management (EVM), and contracting	BUS 1100 Business Essentials (WAU) Online, self-paced learning	Required within first 90 days of EOD (7 hours)	**BUS 1100**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineering	This is a mandatory course for all new Civil Engineer civilians to establish an enterprise-wide comprehension of the Air Force Civil Engineer community. Students gain a basic understanding of Air Force Civil Engineer doctrine, history, capabilities, and related functions. Objectives are: (1) learn the responsibilities of each Flight within the Civil Engineer Squadron (CES), (2) how CES how and its Flights interface with other organizations, (3) and how to plan and execute various programs within each of the Flights.	*WMGT 100 Air Force Civil Engineer Basic Civilian Course (AFIT) self-paced distance learning	Required within first 90 days of EOD (32 hours)	**WMGT 100**
Facilities Engineering and	The objective of this course is to introduce students to Sustainment Management System (SMS) BUILDER so they can be granted "Read Only"	WMGT 131 Sustainment Management	Required within first 12 months of	**WMGT 131**

TIER 1: FOUNDATIONAL SKILLS – FIRST THREE YEARS				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Portfolio/Asset Management,	rights to the system. Students will gain a foundational knowledge of BUILDER, so the incumbent engineer better understand the role it plays in CE processes and how it dovetails with Asset Management principles. Engineers will also be well-versed in how to run reports and navigate the SMS BUILDER menu to make better asset management decisions on infrastructure investment. This course describes what BUILDER is, how it works, and why we use it. Other topics included are Direct Condition Ratings, key terms, reports, best practices, FAQs, and a detailed walk-through of the BUILDER website, the Custom Reports Guide, and several common reports. It is a prerequisite for WMGT 231 SMS BUILDER (Level 2 Assessor) and WMGT 331 (Level 3 Data Manager)	System (SMS) BUILDER Level 1 (Read Only Rights) (AFIT) self-paced distance learning	EOD (0.5 Continuing Education Units [CEU])	
Facilities Engineering and Portfolio/Asset Management,	The main objective of this course is to give students more information and training on SMS PAVER so the student can more effectively maintain installation Pavement Management System (PMS). Students will gain foundational knowledge about the utility and importance of SMS PAVER, why it is used, and explain PAVER's key terms. Additionally, students will learn how to update their pavement inventory records, update and track work history, understand the different pavement inspections, and learn how to run multiple reports to support pavement briefings or use in generating work items for maintenance and repair work. Air Force Civil Engineering Center (AFCEC) Pavement Condition Index (PCI) Survey Report utilizes SMS PAVER system to analyze and calculate the condition of airfield pavements and identify maintenance and rehabilitation (M&R) for better asset management and long-term planning, programming, budgeting, and execution (PPBE[4]) of airfield sustainment.	WMGT 141 SMS PAVER Level 1 (Read Only Rights) (AFIT) self-paced distance learning	Required within first 12 months of EOD (0.5 CEU)	**WMGT 141**
Facilities Engineering, Portfolio/Asset Management, and Cost Engineering	For each engineer to consistently apply scoping and cost estimating principles, tools and standards to more effectively plan Air Force infrastructure requirements. Engineers across the enterprise are required to develop an accurate initial project scope and cost	WENG 200 Scoping and Estimating (AFIT) live broadcast course	Required within first 12 months of EOD (2.0 CEU)	**WENG 200**

[4] Department of Defense (DoD) Directive (DoDD) 7045.14, The Planning, Programming, Budgeting, and Execution (PPBE) Process Incorporating Change 1 (29 Aug 17), https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/704514p.pdf?ver=2019-06-06-145814-060

TIER 1: FOUNDATIONAL SKILLS – FIRST THREE YEARS				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	estimate are critical to the long-term success of an installation's capital improvement program. This course focuses on the Operations Engineering process of identifying and defining requirements from both customer service requests and from the condition assessments (e.g. BUILDER and/or PAVER) with a key focus on the initial cost estimates produced. The course will empower project engineers to collaborate across multiple disciplines and develop a reliable initial scope and cost estimate that is requirements-based for infrastructure work.			
Portfolio/Asset Management	The objective of this course is to introduce engineers to the fundamental concepts of asset management in the Air Force Civil Engineer Structure. Through the introduction of the basic concepts that support asset management, engineers will be better versed in business practices, nomenclature, and practicing engineer mindset to be an effective member of the CE organization. The course introduces the fundamental concepts and principles of asset management in the Air Force Civil Engineer Enterprise. Topics include basic asset management principles, decision making, and Air Force asset management-related policies	WMGT 301 Introduction to Asset Management (AFIT) self-paced distance learning	Required within first 12 months of EOD (1.0 CEU)	**WENG 301**
Engineering Design	Engineers are introduced to the principles and terminology of Air Force construction project management. The phases of Air Force project management: planning & programming, design & contracting, construction, and closeout are presented. The concepts introduced throughout the course include time management, cost management, and quality management of Air Force construction projects.	WMGT 322 Introduction to Project Management Course (AFIT) self-paced distance learning	Required within first 12 months of EOD if assigned to CENMP otherwise within first 24 months of EOD (0.5 CEU)	**WENG 322**
Engineering Design, Portfolio/Asset Management, and Cost Engineering	For engineers to consistently apply life-cycle cost estimating principles, tools and standards to Air Force projects/programs to more effectively plan, program, budget and execute (PPBE) Air Force infrastructure requirements. Life-cycle cost estimating empowers engineers to develop, review, manage and/or finalize Programmed Amounts (PA) and Independent Government Estimates (IGE). Engineers will master life-cycle cost analysis and several cost estimating methods. Graduates will become Authorized Air Force Cost Estimators. Estimating is not a universal skill.	WENG 400 Life-Cycle Cost Estimating (AFIT) self-paced distance learning	Required within first 12 months of EOD if assigned to CENPD or CENMP otherwise within first 24 months of EOD (0.5 CEU)	**WENG 400**

TIER 1: FOUNDATIONAL SKILLS – FIRST THREE YEARS				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	Engineers should evaluate their mathematical ability and interdisciplinary construction knowledge to be successful cost engineers.			
Engineering Design	For engineers to gain an understanding of the contractual aspects of planning, organizing, preparing and managing the provisions of services, construction, and design contracts to satisfy Air Force requirements in the most efficient and effective manner. The fundamentals of government contract preparation (e.g., acquisition strategies, performing market research, evaluating contract types, source selection methods, contracting vehicles, etc.) are presented. The basics of organizing, writing, and coordinating Statements of Works (SOW) and Performance Work Statements (PWS) are presented and applied. The fundamentals of managing contracts such as modifications, inspection, documentation, and remedies for poor performance are discussed. The course will address cost estimating, small business, A&E source selection, familiarization with the Federal Acquisition Regulation (FAR), and many other contracting topics related to customer execution and management of contracts.	WMGT 421 Contracting for Civil Engineering Course (AFIT) live broadcast course	Required within first 12 months of EOD if assigned to CENMP otherwise within first 24 months of EOD (3.0 CEU)	**WMGT 421**
Engineering Design	For engineers to comprehend the principles that will lead to a successful construction project. Project Management course applies the principles of Project Management to Civil Engineering projects. Concepts taught will augment engineers' abilities to ensure that quality construction projects are delivered on time and on budget. Specific topics include project planning, project scheduling, construction management, change management, and construction close-out. This course focuses on the same core principles in Project Management Professional (PMP) certification but in an abridged format and applied to DAF processes.	WMGT 422 Project Management Course (AFIT) live broadcast course	Required within first 12 months of EOD if assigned to CENMP otherwise within first 24 months of EOD (3.0 CEU)	**WMGT 422**
Portfolio/Asset Management	For engineers to comprehend the process, program avenues, rules, and documentation of Air Force project planning and programming for natural and built infrastructure. This course presents engineers with an overview of project planning and programming. It also enables students to define project requirements, determine work classification, select appropriate funding avenues (e.g., O&M, MILCON, UMMC, NAF, etc.), and develop programming documents.	WMGT 423 Project Programming Course (AFIT) live broadcast course	Required within first 12 months of EOD if assigned to CENPD otherwise within first 24 months of EOD (5.0 CEU)	**WMGT 423**

TIER 1: FOUNDATIONAL SKILLS – FIRST THREE YEARS				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	The authority and resources approval processes are presented and explained in detail as well as support office functions (e.g., planning, contracting, comptroller, etc.). The guidance document is DAFI 32-1032 and is used extensively throughout the course.			
Portfolio/Asset Management	For each student to comprehend their role as a proponent in initiating the Environmental Impact Analysis Process (EIAP), in developing project alternatives, in participating in the EIAP interdisciplinary team, and in ensuring that any mitigation identified during this process is funded and implemented. This seminar provides a broad, easy-to-follow overview of federal law and regulations and Air Force policies and regulations regarding proponent responsibilities in the Environmental Impact Analysis Process (EIAP). Topics include fundamentals of the National Environmental Policy Act (NEPA), defining the purpose and need of a proposed action, developing reasonable alternatives, what is the no-action alternative, how to complete the AF Form 813, the proponent's role throughout EIAP, and other environmental challenges project proponents may face. DAF implements NEPA though EIAP utilizing 32 Code of Federal Regulations (CFR) Part 989 as the implementing instruction. Participants in the seminar will gain familiarity with DAF Form 813 and 32 CFR Part 989. Upon completion of this seminar, participants fully acknowledge that no commitment of resources is permitted for execution phase is allowed until EIAP is completed. Design activities can proceed prior to EIAP being com	WESS 150 Proponent Responsibilities in EIAP Seminar (AFIT) self-paced distance learning	Required within first 12 months of EOD if assigned to CENPD otherwise within first 24 months of EOD (5.0 CEU)	**WESS 150**

Note. WENG 170, Cybersecurity for Control Systems and 370, Cybersecurity for CE Leaders courses are not shown; however, they are required training for any supervisory position within the DAF CE inventory. These two courses are recommended to be completed within the first 3 years.

21.13. Tier 2 (Intermediate – Years 4 – 5 of DAF Employment. Tier 2 (Intermediate Skills). General Engineers and Element/Section chiefs must complete both courses between 4th and 5th year after initial EOD.

TABLE 44 INTERMEDIATE SKILLS

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management	For engineers to gain a broad overview of the Department of War (DoW) systems acquisition process and covers all phases of acquisitions. It introduces the Joint Capabilities Integration and Development System (JCIDS); the Planning, Programming, Budgeting, and Execution (PPBE) process; DoW 5000 - series policy and procedures documents; and current issues in systems acquisition management. The course is designed for individuals with little or no experience in DOW acquisition management. The topics covered are beneficial for headquarters, program management, and functional and/or support office personnel.	ACQ 1010 Fundamentals of Systems Acquisition Management Defense Acquisition University (WAU) online training course	Required within first 24 months of EOD	**ACQ 1010**
Facilities Engineering	This course provides a broad understanding of the overall facilities engineering process and the roles/responsibilities of acquisition team members as they relate to the facility lifecycle in support of military missions.	FE 2010 Intermediate Facilities Engineering WAU Online Training course Successful completion of ACQ 1010 is not a prerequisite for enrollment but highly recommended	Required within first 24 months of EOD	**FE 2010**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management,	Fire and related hazards remain among the most significant risks to people and property in our society. However, many incidents can be minimized or avoided by adhering to a consensus-based set of requirements and criteria specified in National Fire Protection Association (NFPA) 101, Life Safety Code. Novice or experienced code enforcement personnel will gain the requisite knowledge from NFPA 101, Life Safety Code Essentials Online Training. It will provide the aptitude to navigate and apply provisions that address fire prevention and protection in all types of buildings. Upon completion of NFPA 101 Life Safety Code Essentials Series, the engineer will be able to:	NFPA 101 Life Safety Code NFPA Online Training Course	Required within first 24 months of EOD	**NFPA 101 (ESSENTIALS SERIES)** Link is for the 2024 version. Recommend searching NFPA "all products" and refine by training the locate the current training course

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	• Define the three parts of means of egress • Determine exit enclosure and protection • Calculate the occupant load and determine the capacity for individual means of egress components as well as entire means of egress • Determine requirements for illumination, emergency lighting, and marking of the means of egress • Specify requirements for hazardous areas, interior finish, vertical openings, fire alarm and extinguishing systems, and contents and furnishings • Distinguish life, health, and safety requirements in different rehabilitation work categories			
Facilities Engineering, Engineering Design, and Portfolio/Asset Management,	NEC compliance helps improve electrical safety in commercial, industrial, and residential applications—from the design and planning to the construction of a building. Electrical system designers, electrical engineers, electrical contractors, electricians, electrical inspectors, safety engineers, installation and maintenance professionals, manufacturers, electrical inspectors, facility maintenance personnel, and project managers will benefit from NEC requirements for increased safety of federal facilities. Upon completion of NFPA 101 Life Safety Code Essentials Series, the engineer will be able to: • Describe the different types of overcurrent protection devices (OCPD) and determine the appropriate size for a branch circuit and/or feeder. • Determine the appropriate wiring materials and raceway sizes for various installation situations. • Identify the components of a grounded installation and the grounding requirements for a variety of components and installation scenarios. • Identify the components of a bonded installation and the bonding requirements for a variety of components and installation scenarios. • Describe the purpose, function, and operating characteristics of a common distribution transformer as well as the principles of effectively grounding transformer installations. • Determine the size of the primary and secondary overcurrent protection for transformer equipment.	NFPA 70 National Electrical Code (NEC) NFPA Online Training Course	Required within first 24 months of EOD	**NFPA 70 (ESSENTIALS SERIES)** Link is for the 2026 version. Recommend searching NFPA "all products" and refine by training the locate the current training course

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	• Use the NEC as a resource to determine the appropriate ratings and code requirements for motors and HVACR systems.			
Facilities Engineering and Engineering Design	The course helps engineers have the requisite skills for basic design, installation, use, and analysis of fire sprinkler systems. Upon successful completion of the course, the engineer will have the ability to: • Navigate NFPA 13 and identify the scope and purpose of the standard • Apply the sprinkler decision-making process • Explain the requirements for water supplies and underground piping • Determine the appropriate system type • Locate and apply system component requirements • Apply installation requirements for sprinkler systems	NFPA 13 Standard for Installation of Sprinkler systems (0.6 CEU) NFPA Online Training Course	Required within first 24 months of EOD	**NFPA 13** Link is for the 2025 version. Recommend searching NFPA "all products" and refine by training the locate the current training course
Facilities Engineering and Portfolio/Asset Management	The objective of this course is to provide engineers with skills/knowledge to conduct Inventory and Assessment activities so they can input data into SMS BUILDER. Upon successful completion of this course, the engineer will be granted assessor rights to SMS BUILDER. The course will prepare engineers to input inventory and carry-out condition assessments, navigate SMS BUILDER and BRED, and input data into SMS BUILDER. The course covers: (1) General Inventory and Assessment Information; (2) Craft-Specific Inventory and Assessment Information; (3) SMS BUILDER Navigation and Data Input; and (4): BRED Navigation and Data Input	WMGT 231 SMS BUILDER Level 2 (Assessor Rights) (AFIT) self-paced distance learning Successful completion of WMGT 131 is a prerequisite for enrollment	Recommended within first 60 months of EOD (0.5 CEU) Highly valued for CEO engineers (e.g., R&O) and recommended for Programmers and Project Managers.	**WMGT 231**
Facilities Engineering and Portfolio/Asset Management	The main objective of this course is to provide engineers advanced training on SMS PAVER and the systems capabilities so installation Pavement Management System (PMS) can be managed more effectively between inspections. Engineers will continue to gain foundational knowledge about PAVER and how to use data to plan projects and make decisions regarding the Pavement Management Plan. Additionally, engineers will learn what PCI Deterioration Models are, how to group pavements and assign them to a family. Engineers will also be instructed on how to create a PAVER database to run M&R work plans, create work plans to repair specific distresses, repair and maintain airfield pavements, and utilize PAVER in project planning.	WMGT 241 SMS PAVER Level 2 (AFIT) self-paced distance learning Successful completion of WMGT 141 is a prerequisite for enrollment	Recommended within first 60 months of EOD (0.5 CEU) Highly valued for CEO engineers (e.g., Horizontal) and recommended for Programmers and Project Managers especially when assigned airfield projects	**WMGT 241**

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management,	Provide engineers (non-industrial control systems personnel) with basic cybersecurity principles to demonstrate how malicious code can impact control systems and other critical infrastructure. This course presents hands-on education for engineers in Civil Engineering Career Field to understand the impact of cyber-attacks against control systems. Course participants engage in a series of lab exercises utilizing the Mobile Industrial Control System Security Trainer (MIST). The curriculum introduces engineers to ladder logic, human machine interfaces and basic networking principles that emulate a real-world control system.	WENG 270 Advanced Control Systems Cybersecurity Course (AFIT) In-residence course Successful completion of WENG 170 is a prerequisite for enrollment	Recommended within first 60 months of EOD (3.0 CEU) Highly valued for CEO engineers (e.g., Horizontal) and recommended for Programmers and Project Managers especially when assigned airfield projects	**WENG 270**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineering	This course is designed to provide engineers with a basic financial management foundation to execute their daily duties efficiently and effectively in a civil engineer organization. The course and not intended to train individuals on home station process and procedures. It is intended to educate students on theories and principles so they may apply financial management knowledge to their duties and responsibilities at any duty station. The curriculum initially covers fundamental Air Force financial management principles and theories as well as fiscal law. Engineers will learn how to apply these financial management fundamentals within a civil engineer organization. Furthermore, non-supervisory engineers gain an understanding of related base civil engineering functions and the interrelationship with AFCEC and AFIMSC.	WMGT 412 Fundamentals of Financial Management in Civil Engineering (AFIT) live broadcast course	Recommended within first 60 months of EOD (6.0 CEU)	**WMGT 412**
Facilities Engineering and Portfolio/Asset Management	The objective of this course is for engineers to comprehend the fundamental principles of asset management practices throughout the Air Force Civil Engineer organizational structure. Course participants will comprehend and apply the tools, techniques and processes necessary to effectively manage natural and built assets for providing sustainable installations. This course focuses on the DAF's process of activity management through the introduction of concepts that build its foundation. Engineers will be introduced to the fundamental principles of asset visibility, data analysis, identifying requirements, measuring performance, financial resources, planning horizons and strategies, and the various business rules that govern the obligation of centralized funds.	WMGT 417 Activity Management (AFIT) live broadcast course Successful completion of WMGT 131 and WMGT 301 are prerequisites for enrollment	Recommended within first 60 months of EOD (3.0 CEU) Highly valued for CEO engineers and Programmers. Recommended for Project Managers	**WMGT 417**
Facilities Engineering,	This course provides engineers with the concepts, principles, processes, and practices associated with	WMGT 424 Realty	Recommended within first 60	**WMGT 424**

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Engineering Design, and Portfolio/Asset Management,	the life cycle (acquisition, management, accountability, and disposal) of DAF real property assets. The curriculum focuses on the duties and responsibilities of an installation-level Real Property Officer (RPO). Also, it describes the roles and interrelationships between Congress, the Secretary of the Department of Air Force (SAF), Headquarters Air Force (HAF), MAJCOM, the U.S. Amry Corps of Engineers (USACE), and the General Services Administration (GSA). Basic Realty principles and general management topics are also included to increase the participant's ability to function effectively as a member of the civil engineer squadron.	Management Course (AFIT) live broadcast course	months of EOD (3.0 CEU) Highly valued for CEO engineers and Programmers. Recommended for Project Managers	
Facilities Engineering, Engineering Design, and Portfolio/Asset Management,	This course provides the framework for engineers to comprehend the roles and responsibilities of the CEOE Requirements & Optimization section and sub activity managers for effective and efficient mission support. This course focuses on how Requirements and Optimization (R&O) Section within CEOE Element: (1) identifies, optimizes and manages infrastructure requirements; (2) optimizes CEO workforce; and (3) manages various sub-activities across the installation. The course also includes best practices and perspectives from across the DAF	WMGT 436 Requirements and Optimization (AFIT) live broadcast course Successful completion of WMGT 301 is a prerequisite for enrollment	Recommended within first 60 months of EOD (2.5 CEU) Highly valued for CEO and CEN engineers	**WMGT 436**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management,	Provides engineers with the principles that will lead to a successful construction project utilizing Red Horse Squadrons (RHS) as the execution vehicle. This course applies the principles of Project Management to Civil Engineering Troop Construction (aka Troop Training) Projects. The concepts taught will augment engineers' abilities to ensure that quality construction projects are delivered on time and on budget with fit within the training requirement timeline for RHS execution. Specific topics include project planning, budgeting, material acquisition, scheduling, risk management, safety and quality management, change management, and construction close-out.	WMGT 437 Troop Construction Project Management Course (AFIT) live broadcast course Successful completion of WMGT 322 is prerequisite for enrollment	Recommended within first 60 months of EOD (2.0 CEU) Highly valued for Programmers and Project Managers. Recommended for CEO engineers	**WMGT 437**
Engineering Design and Portfolio/Asset Management,	This seminar provides engineers with the understanding and key elements of construction site stormwater permitting, controls, and compliance with Federal regulations. The fundamentals of construction site stormwater management planning and stormwater management	WESS 031 Construction Site Stormwater Seminar (AFIT) self-paced distance	Recommended within first 60 months of EOD (0.5 CEU) Highly valued for Programmers	**WESS 031**

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	operations are presented with an emphasis on Federal Construction General Permit (CGP); Stormwater Pollution Prevention Plan (SWPPP) preparation and management compliance; Best Management Practice (BMP) selection, design, installation, and management; and compliance inspections. The seminar is a general introduction to construction site stormwater management and provides the tools to integrate stormwater principles into the construction planning and execution process.	learning	and Project Managers. Recommended for CEO engineers	
Engineering Design and Portfolio/Asset Management,	This course provides engineers with an understanding of required compliance with NEPA implemented through the Environmental Impact Analysis Process (EIAP) (32 CFR Part 989) and their role in the multiple project delivery process prior to the start of EIAP. The course supports the Environmental Planning Function (EPF), environmental staff, and project proponents in identifying and planning the Pre-environmental Impact Analysis Process (PREIAP) requirements. Engineers will identify actions that are required and who is responsible for completing them prior to the initiation of the formal PREIAP process. EIAP has multiple responsibilities and requires ongoing education for members proposing projects/actions and EPF personnel. Participants will learn how to work with stakeholders on expedient data gathering needed as part of internal scoping/PREIAP in preparation of the start of the Description of Proposed Action and Alternatives (DOPAA). Topics covered are: (1) building stakeholder bridges; (2) plans in the Comprehensive Planning Platform (CPP); (3) project programming for EIAP; (4) funding types; (5) timing and levels of documents; and (5) and the AF Form 813/813 Tool	WESS 250 Early considerations for EIAP Seminar (AFIT) self-paced distance learning	Recommended within first 60 months of EOD (0.5 CEU) Highly valued for Programmers and Project Managers. Recommended for CEO engineers	**WESS 250**
Portfolio/Asset Management	For engineers to understand the full spectrum of base energy manager roles and responsibilities, from policy to implementation. This course provides knowledge and understanding of current energy policy and legislation and the responsibilities of a base/MAJCOM Energy Manager. Topics covered include metering and reporting, Energy Independence and Security Act (EISA) Section 432 (42 USC 17001 et. seq. [Pub. L. 110-140]) compliance, Resource Efficiency Managers (REMs), utility commodity acquisition, energy project, energy security, and energy awareness and training.	WENG 466 Facility Energy Manager (AFIT) In-residence course	Recommended within first 60 months of EOD (0.5 CEU) Highly valued for Installation Energy Managers. Recommended for other CEN engineers	**WENG 466**
Portfolio/Asset Management	Course participants will gain an understanding and comprehension of the diverse interrelated disciplines	WENG 519 AF Installation	Recommended within first 60	**WENG 519**

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	of planning, design and the environment, as well as to enhance their skills to effectively manage or contribute to comprehensive planning functions on an Air Force installation. Engineers will be introduced to master planning concepts and increase their ability to implement and manage the installation comprehensive planning process. The increasing complexity and visibility of the community planner's job requires knowledge and skills in many diverse yet intricately interrelated topics and requires support of engineers. The course focuses on: (1) Introduction to Organizational structure and Role of the community planner and engineering team; (2) Core Competencies of the Planner; and (3) Ancillary Planning Information and Professional Development.	Planning Principles (AFIT) distance learning course	months of EOD (3.5 CEU) Highly valued for Installation Planners. Recommended for other CEN Programmers and personnel working with installation Mission Sustainment Director	
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineering	The Fundamentals of Engineering (FE) exam is generally your first step in the process of becoming a licensed Professional Engineer (PE). It is designed for recent graduates and students who are close to finishing an undergraduate engineering degree from an EAC/ABET-accredited program. FE Exam registration and requirements vary by state. Consult with National Council of Examiners for Engineering and Surveying (NCEES) portal.	Fundamentals of Engineering (FE) exam	Recommended within first 60 months of EOD Prerequisite for engineers obtaining Professional Engineer's Licensure	**FE EXAM INFO**
Air Force Culture / Organization	The Squadron Officer School distance learning (SOS DL) program is the Air Force's primary developmental education (PDE) program and is designed to advance the professional development foundation provided by the accession's programs. The SOS curriculum is based on Air Force and joint professional military education publications for subject matter content in leadership, communication, profession of arms, warfare, and international security areas of study. The program seeks to provide an "air-minded" curriculum that prepares graduates for greater responsibilities at the squadron level while also building critical thinking skills in the application of airpower for national security goals and objectives. The SOS distance learning program produces graduates who are able to: 1. Apply critical-thinking and communication skills to address contemporary military issues; 2. Understand the moral foundation of military service and how this informs ethical leadership in the profession of arms;	Squadron Officer School (SOS), Primary Developmental Education (PDE) Air University (AU) Global College Professional Military Education (GCPME) distance learning course The eligibility criteria for the SOS distance learning program are found in Air Force Instruction (DAFI) 36-2686, *Officer*	Recommended within first 60 months of EOD	**SOS INFO**

TIER 2: INTERMEDIATE SKILLS – FOUR TO FIVE YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	3. Apply leadership theories and models to the practice of leading teams/units in complex, dynamic, and ambiguous tactical environments; 4. Understand the historical context of military and airpower theory, and how these inform the employment of joint forces in the international security environment; 5. Analyze how airpower contributes to military operations in the joint, interagency, intergovernmental, and multinational (JIIM) environment, in support of national security aims; and 6. Comprehend concepts (theories, models, analytical frameworks, etc.) and issues relevant to the military profession.	*Development*. AF Civilian Employees (GS-9 to GS-12) are eligible to enroll,		

21.14. Tier 3 (Expert/Specialization – Years 6 – 10 of DAF Employment. Tier 3 (Expert/Specialization Skills). General Engineers and Element/Section chiefs are recommended to complete courses between 6th and 10th year after initial EOD for senior installation-level (i.e., Group- or Wing-level) or enterprise positions.

TABLE 45 TIER 3 REQUIREMENTS

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0810, 0830, and 0850 engineers	To provide engineers with the basic knowledge of control systems cybersecurity pursuant to NDAA 1650. Pilot program authority to enhance cybersecurity and resiliency of critical infrastructure. This course was developed to familiarize Civil Engineer personnel on control systems cybersecurity, including threats and vulnerabilities as well as mitigation strategies in employing best practices to defend against cyberattacks. NOTE: This course does not provide tactical level skills/details that an IT Specialist (2210) is required to have to mitigate cyberattacks on installation networks.	WENG 370 Control Systems Cybersecurity for CE Leaders (AFIT) self-paced distance learning	Recommended within 10 years of EOD (3.0 CEU) **In conjunction with WENG 170, required for all supervisors unless previously taken**	**WENG 370**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0810 Civil Engineer	The course provides engineers with the requisite knowledge to determine the appropriate roof system for a construction/replacement project, the design issues to be evaluated, and the management of roof assets. Participants are provided with the fundamentals of design and management for roofing systems which will increase the capabilities of Air Force Civil Engineer personnel responsible for the installation's Roof Management Program. Topics include an overview of different roofing systems and components inspection, repair procedures, energy management, and resilient design practices for the roof asset management program.	WENG 440 Roofing Design & Management Course (AFIT) live broadcast course	Recommended within 10 years of EOD (3.0 CEU)	**WENG 440**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0810 Civil Engineer	The course's intent is for engineers to comprehend and apply the principles of airfield pavement design in accordance with current Unified Facility Criteria (UFC). Participants are provided with theory, principles and techniques for airfield pavement design in accordance with DoW UFC 3-260-XX series guidance. The concepts presented are applied to design of new pavements and rehabilitation of existing pavements including reconstruction and overlays. The course also covers fundamentals of pavement management to include pavement distress identifications, rehabilitation and repair techniques, and **TRI-SERVICE PAVEMENT-TRANSPORTATION** Computer Assisted Structural Engineering (**PCASE**) design and evaluation software.	WENG 550 Airfield Pavement Design and Maintenance (AFIT) In-residence course	Recommended within 10 years of EOD (7.0 CEU) Successful completion of WMGT 555 is a prerequisite for enrollment	**WENG 550**
Facilities Engineering,	Participants will be provided with the knowledge to comprehend and be able to apply the basic	WENG 555 Airfield	Recommended within 10 years	**WENG 555**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0810 Civil Engineer	principles of pavement technology and Quality Control/Quality Assurance to airfield pavement inspection. This course increases an engineer's ability to implement quality assurance/quality control measures during the design and construction of airfield pavements. The course is based on Unified Facility Guide Specifications (UFGS). It draws from industry standard pavement construction practices and applies them to Air Force airfield projects. The course is broken into four general areas. These include general inspection and contract management, aggregate fundamentals, asphalt mix design and paving operations, and concrete mix design and paving operations.	Pavement Construction Inspection (AFIT) distance learning course	of EOD (3.0 CEU)	
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0830 Mechanical Engineer	Participants are provided with the knowledge to comprehend the purpose of mechanical systems to facilitate their design, construction, and operation. This course introduces engineers to facility mechanical systems to include Heating Ventilation and Air Conditioning (HVAC), plumbing and fire protection systems. This course covers the functional requirements, types, execution (design, construction, and acceptance), and operation of such systems.	WENG 460 Introduction to Mechanical Systems (AFIT) distance learning course	Recommended within 10 years of EOD (2.5 CEU)	**WENG 460**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0830 Mechanical Engineer	Mechanical engineers are provided with the tools and best practices applicable to HVAC system analysis and design. This is an advanced level course intended to build upon HVAC fundamentals and provide mechanical engineers with the ability to perform HVAC system analysis and design. This course will cover: (1) General HVAC concepts; (2) Systems; and (3) Equipment. Major topics include thermodynamics, heat transfer, psychrometrics, design conditions, facility energy estimating & load calculations, air and water system design, air-conditioning systems & configurations, air-processing equipment, and refrigeration.	WENG 560 Fundamentals of HVAC Design and Analysis (AFIT) distance learning course	Recommended within 10 years of EOD (8.5 CEU) Successful completion of WMGT 460 is a prerequisite for enrollment	**WENG 560**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0830	This course provides mechanical engineers with the tools and best practices applicable to HVAC system analysis and design. This is an advanced course intended to build upon HVAC fundamentals (WENG 460) to give mechanical engineers the ability to perform HVAC system analysis and design. This course will cover: General HVAC concepts, Systems, and Equipment. Major topics include thermodynamics, heat transfer,	WENG 561 Applications of HVAC Design and Analysis (AFIT) In-residence course	Recommended within 10 years of EOD (3.5 CEU) Successful completion of WMGT 460 and WMGT 560 are prerequisites for	**WENG 561**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Mechanical Engineer	psychrometrics, design conditions, facility energy estimating & load calculations, air and water system design, air-conditioning systems & configurations, air-processing equipment, and refrigeration. This course is a follow-on to WENG 560 Fundamentals of HVAC Design and Analysis.		enrollment	
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0830 Mechanical Engineer	This course provides mechanical engineers with the tools and best practices for design, construction, operation and maintenance of facility plumbing systems, and to apply these skills to ensure efficient and effective operation of those systems throughout their lifecycle. This is a web-based, advanced level course intended to provide students with a comprehensive understanding of the facility plumbing systems engineers may encounter at the installation-level. The course examines roles of key players and documentation processes in our civil engineer community that affect all phases of a facility plumbing systems' lifecycle. The course will provide guidance on potable and sanitary water distribution systems and the associated components for those systems. Venting, backflow prevention, cross connection with storm drainage systems, and basics of compressed air and natural gas systems are presented.	WENG 562 Facility Plumbing Systems (AFIT) distance learning course	Recommended within 10 years of EOD (3.0 CEU)	**WENG 562**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0850 Electrical Engineer	This course provides engineers with the understanding of electrical systems at Department of Air Force and other DoW installations. Engineers are introduced to electrical system design, maintenance, efficiency and security. Participants receive instruction in policy/guidance, electrical safety, power fundamentals, distribution systems, energy security, airfield systems, backup power systems, infrastructure management, lightning protection systems, industrial control systems, energy management, lighting, and facilities. The course curriculum includes basic calculations and concepts related to electrical circuits and principles.	WENG 470 Introduction to Electrical Systems (AFIT) distance learning course	Recommended within 10 years of EOD (2.5 CEU)	**WENG 470**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0850	This course provides engineers with the principles and procedures necessary for the design and analysis of electrical power systems associated with Department of Air Force facilities and other DoW installations. Engineers taught the requisite knowledge, abilities, resources, and techniques to effectively design, manage, and maintain facility power systems. Topics include policy and guidance, facility design, design	WENG 572 Facility Electrical Power System Design (AFIT) live broadcast course	Recommended within 10 years of EOD (3.0 CEU) Successful completion of WMGT 470 is a prerequisite for enrollment only if	**WENG 572**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Electrical Engineer	estimation techniques, power factor correction, lighting, grounding, special occupancies, and energy management.		applicant is not an electrical engineer	
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0850 Electrical Engineer	This course provides engineers with the principles and procedures for the design and analysis of Air Force and other DoW electrical power distribution systems. Participants gain knowledge, ability, resources, and techniques to effectively design, analyze, manage, and maintain simple power distribution systems. Topics include policy and guidance, electrical safety, generation, transmission, distribution, substations, design estimation techniques, grounding, fault analysis, infrastructure management, utility privatization, security and reliability.	WENG 573 Electrical Power Distribution Design and Analysis (AFIT) distance learning course	Recommended within 10 years of EOD (3.0 CEU) Successful completion of WMGT 470 is a prerequisite for enrollment only if applicant is not an electrical engineer	**WENG 573**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0850 Electrical Engineer	This course provides an opportunity for engineers to build upon the knowledge gained in WENG 470, WENG 572, WENG 573, and WENG 574 to real-world application. Classroom and laboratory Easy Power software hands on experience are gained, through site visits to a real-world substation with the utility provider (privatized utility system), airfield lighting vault and airfield tour, EMCS control room including discussion real world concerns with Industrial Control Systems [ICS]), and an opportunity to research and present a capstone topic in power systems. Other topics include electrical safety, emerging electrical code updates, industrial control systems, arc flash calculations, renewable energy, utility privatization, and protective relays.	WENG 576 Electrical Power System Design Capstone (AFIT) In-residence course	Recommended within 10 years of EOD (3.0 CEU) Successful completion of WMGT 572 & 573 are prerequisites	**WENG 576**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to comprehend how DAF implements National Environmental Policy Act (NEPA) via the Environmental Impact Analysis Process (EIAP). The DAF EIAP is required by law to procedurally inform decision making process prior to commitment of resources. Integration of programming, project management, and environmental compliance elements are crucial to success and supervisors/managers should ensure effective cross talk. This course provides a fundamental understanding of NEPA, Council on Environmental Quality (CEQ), and EIAP (32 CFR Part 989). This course provides ongoing training for member responsibilities when proposing projects/actions and Environmental Planning Function (EPF) personnel. Key topics include NEPA law/Executive Orders,	WENV 450 Environmental Impact Analysis Process (EIAP) Course	Recommended within 10 years of EOD (2.5 CEU)	**WENV 450**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	roles and responsibilities, EIAP and planning integration, funding, affected environment/consequences, proponent responsibilities, Categorical Exclusion application, Environmental Assessments and Environmental Impact Statements, public involvement, consultations, effective writing, and mitigation.			
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to comprehend strategic financial management concepts, principles, and programs in order to lead within the civil engineer organization while providing effective financial decision support utilizing asset management principles. The emphasis of this course is on strategic financial management concepts, principles, and programs in order to lead within the civil engineer organization and does not provide the skills/training for a Resource Advisor of Budget Analyst.	WMGT 513 Financial Management for Civil Engineer Leaders (AFIT) live broadcast course	Recommended within 10 years of EOD (2.5 CEU)	**WMGT 513**
Facilities Engineering, Engineering Design, and Portfolio/Asset Management Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to ensure she/he is prepared to understand the process of how Area Development Plans (ADP) are created and implemented using qualitative methods, charrettes, installation design elements, programming, planning graphics, and sustainable design principles in accordance with DoW guidance. This course includes field surveys and design review sessions tailored for the base-level community planner. In this design studio-based course, engineers will prepare a conceptual ADP from the development of a vision to the preparation of an Illustrative Plan. Engineers will gain understanding of how to design and how decisions are shaped by physical, economic, political, social, environmental, and cultural considerations. In addition, engineers are introduced to additional graphic and technical tools to aid in their presentation of planning products. They will learn how to prepare a program for short and long-term development based on their plan.	WENG 520 Comprehensive Planning & Development (AFIT) In-residence course	Recommended within 10 years of EOD (3.0 CEU)	**WENG 520**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/	This course provides an opportunity for engineers to ensure she/he is prepared to lead an Engineering Flight (CEN) within a Civil Engineer Squadron (CES). Engineers are instructed how to apply leadership principles to flight-level supervision and management. Topics include base planning, programming, design and construction management. Students will apply concepts within	WMGT 420 Engineering Flight Leadership (AFIT) In-residence course	Recommended within 10 years of EOD (2.0 CEU)	**WMGT 420**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Specialization skills for 0810, 0830, and 0850 engineers	discussions, case studies, and practicums.			
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to ensure she/he is prepared to lead an Operations Flight (CEO) within a Civil Engineer Squadron (CES). Engineers are instructed how to apply leadership principles to flight-level supervision and management. Topics include personnel management, customer service, readiness, and operations engineering. Students will apply concepts within discussions, case studies, and practicums.	WMGT 430 Operations Flight Leadership (AFIT) In-residence course	Recommended within 10 years of EOD (3.0 CEU)	**WENG 430**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to ensure she/he is prepared to command a squadron with civil engineer personnel and functions (CES). Engineers are instructed how to apply leadership to the command of civil engineer personnel and functions. Topics include providing intent, communication, and accountability across all civil engineer functions. Students will apply concepts within discussions, case studies, and practicums.	WMGT 400 Civil Engineer Command (AFIT) In-residence course	Recommended within 10 years of EOD (4.0 CEU)	**WENG 400**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides an opportunity for engineers to ensure she/he is prepared to implement Tri-Service policy and analyze cost estimates to more effectively plan, program, budget and execute Air Force infrastructure requirements. This course prepares engineers for the role of senior unit cost engineer in the project programming process and involves evaluating life-cycle cost analyses, analyzing estimates from the perspective of Basis of Estimate, the actual costs involved, and the risks involved, and finally, analyzing and responding to the construction market dynamics.	WENG 500 Cost Engineering (AFIT) In-residence course	Recommended within 10 years of EOD (1.0 CEU)	**WENG 500**
Facilities Engineering, Engineering Design, Portfolio/Asset Management,	This course provides advanced training for Cost Engineers to increase their proficiency and knowledge in the Civil Engineering Career Field (CE CF). Estimating civil engineering projects is a specialized field, whereby correct and accurate estimating is needed in order to support the	Civil Works Cost Engineering USACE PROPECT	Recommended within 10 years of EOD (3.2 CEU)	**CIVIL WORKS COST ENGINEERING** **NOTE: the**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	Planning, Programing, Budgeting, and Execution (PPBE) process and to successfully manage costs for the DAF. The topics covered include the regulations pertaining to Civil Engineering and Cost Engineering throughout the Civil Engineering SMART Planning Process, Cost Quality Management, and the role of the Cost Engineer on the project delivery team throughout the project delivery process. The requirements for performing Cost and Schedule Risk analysis and development of contingencies for CE projects will be explained. Advanced methodology for quantity takeoff and review of plans and specifications will be taught. The course will include discussions and examples of real-life civil works cost estimating and conditions affecting production rates, bidding strategies, acquiring transportation and placement of materials. Requirements for Agency Technical Review will be discussed. Since the course is offered by USACE, it is expected that students will bring their own laptop with MII Cost Engineering software on it to complete the course assignments and/or exams.	Course 24		**link provided is for a specific course offering (Calendar Year 2026). Search for the current course offerings on PROPSECT COURSE SCHEDULE**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This course provides training on basic cost risk analysis principles and fundamentals. The training is intended for the Cost Engineering professional with little or no cost experience in cost risk analysis techniques who will be responsible for the review or preparation of construction contingencies for Civil Works, MILCON and Environmental Remediation cost estimates. This is a computer-based course, and is designed to provide a solid introduction to the theory and application of risk analysis problems involving multiple numeric uncertainties (e.g. budget to detailed cost estimating, contingency analysis, and competitive bidding) and demonstrate why risk analysis is necessary, and how to mitigate the probability of having a cost overrun. Using lectures, visual aids, individual and group practical exercises, the course will provide instructions on: (a) procedures and cost engineering regulations regarding the use of cost risk analysis, (b) basic statistics (c) data gathering, (d) uncertainties identification and quantification, and (e) interpretation and use of the results. NOTE: A laptop with Microsoft Excel and Oracle Crystal Ball is required for this class. Proficiency with Microsoft Excel is required. Crystal Ball is the USACE software required for preparing risk analysis for contingency development.	Cost Risk Analysis BASIC USACE PROPSECT Course 220	Recommended within 10 years of EOD (3.2 CEU)	**COST RISK ANALYSIS BASIC** **NOTE: the link provided is for a specific course offering (Calendar Year 2026). Search for the current course offerings on PROPSECT COURSE SCHEDULE**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Facilities Engineering, Engineering Design, Portfolio/Asset Management, and Cost Engineer Expert/ Specialization skills for 0810, 0830, and 0850 engineers	This preparatory track provides access to a commercial suite of online Principles and Practice of Engineering (P.E.) Exam Preparatory materials from PPI (Kaplan), which includes practice questions, tests, guided solutions, and mastery videos. After passing your P.E. or PMP, eligible students may apply to get their exams fees reimbursed. Reimbursement is completed via direct deposit approximately 4 weeks after all required documentation has been provided to the course director via an encrypted org-box	Principles and Practice of Engineering (PE) Exam Preparatory	Recommended within 10 years of EOD	**PCLE**
Air Force Culture / Organization	The Air Command and Staff College distance learning (ACSC DL) program is an intermediate developmental education (IDE) program. Additionally, the ACSC DL program was reviewed by the joint staff and received full Joint Professional Military Education (JPME) Phase I accreditation. The ACSC DL curriculum is designed to produce a more effective field-grade officer serving in operational-level command or staff positions. The courses emphasize applying airpower in joint campaign planning and the operational art of war. Students explore national security issues, strategy and war theory, airpower history and theory, expeditionary Air Force force-employment concepts, and the capabilities and limitations that the US Air Force and its sister services contribute to joint force commanders. The ACSC DL produces air-minded graduates who can: 1. demonstrate creative thinking, critical analysis, and persuasive communications about airpower and operational problem solving. 2. apply principles of leadership and ethics to decision-making based on the shared values of the profession of arms. 3. apply the capabilities, limitations, and integration of the instruments of national power across the spectrum of competition, conflict, and war. 4. 4. analyze operational environments marked by complexity, uncertainty, and surprise. 5. apply military theory, doctrine, strategic guidance, and joint warfighting principles to plan for all-domain, globally integrated operations. 6. explain the conduct of contemporary and	Air Command and Staff College School (ACSC), Intermediate Developmental Education (IDE) Air University (AU) Global College Professional Military Education (GCPME) distance learning course The eligibility criteria for the ACSC distance learning program are found in Air Force Instruction (DAFI) 36-2686, *Officer Development*. AF Civilian Employees (GS-11 to GS-13) are eligible to enroll,	Recommended within 10 years of EOD	**ACSC INFO**

TIER 3: EXPERT/SPECIALIZATION SKILLS – SIX TO 10-YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
	emerging warfare.			

21.15. Tier 4 (Branch Level) – Years 10+ of DAF Employment. Tier 4 (Installation Level Branch Chief). These courses are designed for General Engineers to prepare for installation level branch chief level positions and are recommended to complete 10th year after initial EOD.

TABLE 46 TIER 4 REQUIREMENTS

TIER 4: BRANCH-LEVEL SKILLS – 10+ YEARS POST EOD				
Occupational Competency	**Description**	**Course**	**Applicability**	**Link**
Air Force Culture / Organization / Leadership	This course introduces engineers to the Joint Force Requirements Process (JFRP). It will describe the joint documents, terms and stakeholders involved in this process, as well as the relationship of JFRP to the other two systems within the larger Big "A" acquisition system of Planning, Programming, Budgeting and Execution (PPBE), and the Warfighting Acquisition System (WAS).	RQM 1010 Introduction to Joint Requirements WAU Online Course	Recommended 10+ years of EOD	**RQM 1010**
Air Force Culture / Organization / Leadership	This course introduces engineers to study the role of both the requirements manager and requirements management within the Department of War (DoW) “Big A” acquisition construct. It examines the capabilities identification and requirements development processes from an end-to-end perspective, highlighting the intersection between the DoW “Big A” decision support systems of acquisition, resourcing, and requirements.	RQM 1101 Core Concepts for Requirements Management WAU Online Course	Recommended 10+ years of EOD	**RQM 1101**
Air Force Culture / Organization / Leadership	This course introduces engineers to the process used to conduct an Analysis of Alternatives (AoA). The AoA is the analytic process that DoW organizations use to make materiel solution decisions which balance cost, performance, schedule and risk in order to close or mitigate warfighter capability gaps.	RQM 1510 Analysis of Alternatives WAU Online Course	Recommended 10+ years of EOD	**RQM 1510**
Air Force Culture / Organization / Leadership	This course introduces engineers to the purpose and intent behind requirements management certification; evolving professionalization of the workforce; the role of the Requirements Manager; Requirements Management executive Flag/GO/SES leadership opportunities; the Joint Capabilities Integration Development System (JCIDS); the Defense Acquisition System (DAS); and Planning, Programming, Budgeting, and Execution (PPBE). Importantly, the course addresses current Congressional and Department initiatives impacting capability requirements management to highlight potential challenges and identify opportunities.	RQM 4030V Requirement Executive Overview WAU Instructor-led, Virtual Campus Course	Recommended 10+ years of EOD	**RQM 4030V**
Air Force Culture / Organization / Leadership	This course introduces engineers to an executive overview of pertinent topics concerning Requirements Management. It examines the Joint Capabilities Integration and Development System and its close partnership with both the Defense Acquisition System and the Planning, Programming, Budgeting, and Execution processes. This top-level, strategic overview will include discussion pertaining to the collaboration between the requirements and acquisition communities as they work to enable the setting of achievable risk-informed capability requirements, and the making of cost effective,	RQM 4130 Senior Leader Requirements Course WAU Instructor-led, In-residence Course	Recommended 10+ years of EOD	**RQM 4130**

TIER 4: BRANCH-LEVEL SKILLS – 10+ YEARS POST EOD				
	performance, schedule, and quantity trade-offs			
Air Force Culture / Organization / Leadership	This course introduces engineers to the process of planning and implementing an organization's science and technology strategies.	STM 2050 Science and Technology Strategy WAU Online Course	10+ years of EOD	**STM 2050**
Air Force Culture / Organization / Leadership	This course introduces engineers to introduce them to roles and responsibilities of senior DoW science and technology managers. This course focuses on the application of principles and practices of technology portfolio development, prioritization and evaluation. The course challenges students to think critically in instructor facilitated exercises to make sound recommendations on which technologies to pursue consistent with organization core functions, customer requirements and technology opportunities.	STM 2060V Technology Portfolio Management WAU Instructor-led, Virtual Campus Course	Recommended 10+ years of EOD	**STM 2060V**
Air Force Culture / Organization / Leadership	OPM's Senior Executive Development Program (SEDP) equips Senior Executive Service (SES), Senior Professional (SL and ST), GS-15, and GS-14 leaders with the essential skills and knowledge to champion the priorities of the administration. Engage in a transformative learning experience that inspires action, sharpens leadership capabilities, fosters strategic thinking, and strengthens accountability within the federal government. With focused content tailored to senior executives in the federal government, you'll be equipped to advance your agency's mission and objectives in critical areas such as rulemaking, appropriations, budget, human capital, technology, and policy. You'll deepen your expertise, learn from fellow executives, and embrace the exciting challenges of your role with renewed confidence and enthusiasm. The 40-hour curriculum must be completed within six months to earn a certificate of completion.	OPM Senior Executive Development Program (SEDP)	Recommended 10+ years of EOD	**OPM SEDP**
Air Force Culture / Organization / Leadership	OPM's Leadership for an Efficient and Accountable Government (LEAG) program. Designed for high-potential, high-performing GS-14 and GS-15 federal employees, this program builds a strong foundation for advancement to Senior Executive Service (SES) roles. The curriculum aligns with new Executive Core Qualifications, guiding you from foundational knowledge of the Constitution to advanced topics like crisis leadership and executive communication. You'll gain essential skills to bridge policy and implementation, drive efficiency, uphold accountability, and expand your impact as a senior leader serving the American people.	OPM Leadership for an Efficient and Accountable Government (LEAP)	Recommended 10+ years of EOD	**OPM LEAP**

TIER 4: BRANCH-LEVEL SKILLS – 10+ YEARS POST EOD				
Air Force Culture / Organization / Leadership	The Defense Senior Leader Development Program (DSLDP) is a unique program that develops GS 14-15 or equivalent senior civilian leaders who have the potential and aspiration to serve as senior executives. DCPAS plans and executes the Defense Senior Leader Development Program. Over the course of twenty months, DSLDP provides structured learning opportunities to enable civilian leaders with the enterprise-wide perspective and competencies needed to lead people, programs, and organizations in the joint, interagency, and multinational environment. These include Defense-focused leadership seminars, professional military education at a senior service school, and several individual development activities	Defense Senior Leader Development Program (DSLDP)	Recommended 10+ years of EOD	**DSLDP**
Air Force Culture / Organization / Leadership	The White House Leadership Development Program (WHLDP) is a one-year, high-visibility leadership assignment at the center of government. It offers a rare opportunity for GS-15 leaders (or equivalent) from participating agencies to grow through challenges, contribute to urgent priorities, and expand their strategic network. The program has been streamlined to a placement-first model, focusing on strategic placements that directly advance Administration priorities and align with the fellow's professional expertise. This ensures that fellows bring critical skills to deliver real-world results where they are most needed. Leadership development remains a core component, with approximately 15% of the fellowship dedicated to a results-driven program for building the mindset and capabilities to lead effectively. Upon completion, fellows return to their agencies, which are better equipped with enhanced skills, perspectives, and networks to lead in today's complex environment.	White House Leadership Development Program (WHLDP)	Recommended 10+ years of EOD	**WHLDP**
Air Force Culture / Organization / Leadership	The Enterprise Perspective Seminar gives participants executive-level insights into the inner workings of government. As we engage in the third decade of the 21st century, American security concerns are broader and more multi-dimensional than at any other time in its history. In a world defined by regional disputes and big-power rivalries, Congress and the Administration face daunting political and military challenges - both domestic and international that need to be effectively addressed. Participants examine the local and global implications of congressional decisions, Administration policies and their impact on the Department of War (DoW), the Supreme Court and its role in policy, and issues in economic, national security, and political arenas. Speakers at this program are high-level internationally recognized experts with extensive professional experience and insight into current issues.	Enterprise Perspective Seminar (EPS) TDY to NCR	Recommended 10+ years of EOD	**EPS (MyFSS Link)**

TIER 4: BRANCH-LEVEL SKILLS – 10+ YEARS POST EOD				
Air Force Culture / Organization / Leadership	This 4-day course is designed for GS-14 and GS-15 civilian leaders who play a pivotal role in shaping and executing strategic initiatives across the Department of the Air Force (DAF). Participants will engage in a dynamic learning experience focused on enhancing their strategic awareness, leadership acumen, and ability to navigate complex organizational challenges. Through interactive discussions and collaboration with peers and experts, students will explore frameworks for influencing outcomes and leading in a rapidly evolving national security environment. Participants will also leverage resources from Air University to deepen their understanding of strategic deterrence and air and space power. Students are encouraged to bring a current leadership challenge from their organization to apply course concepts in real time, culminating in a capstone exercise and personalized action plan. This course is ideal for leaders who are frequently called upon to make high-stakes decisions and drive transformation within their units or across the DAF enterprise. Participants will engage in four online discussion posts the two weeks prior to class.	Civilian Warfighter Support Course (CWSC) TDY Maxwell AFB, AL	Recommended 10+ years of EOD	**CWSC (MyFSS Link)**
Air Force Culture / Organization / Leadership	The Air War College (AWC) distance learning program is a senior developmental education (SDE) program. The AWC DL curriculum is based on the five core areas central to all levels of professional military education—leadership, profession of arms, warfighting, national/international security, and communication studies. As an Air Force SDE program, AWC DL provides a strategic, "air-minded" curriculum that prepares graduates to provide strategic leadership, appropriate expertise and critical thinking in support of national security objectives. The AWC experience is designed to "…develop Airmen who are critical and creative thinkers by implementing an agile, individually tailored approach to life-long education…." (USAF Strategic Master Plan, May 2015). The new curriculum provides students with peer-to-peer interaction and collaboration opportunities, facilitation of online seminars by professionally-certified faculty, and the ability to customize the program to suit personal and professional needs. The AWC Distance Learning (AWC DL) program produces graduates who are able to: 1. Illustrate the skills required to lead successfully at the strategic level in the complex national security environment 2. Analyze the contextual requirements for the effective strategic employment of airpower 3. Comprehend the elements of successful	Air War College School (AWC), Senior Developmental Education (SDE) Air University (AU) Global College Professional Military Education (GCPME) distance learning course The eligibility criteria for the ACSC distance learning program are found in Air Force Instruction (DAFI) 36-2686, *Officer Development*. AF Civilian Employees (GS-13 to GS-	Recommended 10+ years of EOD	**AWC DL**

TIER 4: BRANCH-LEVEL SKILLS – 10+ YEARS POST EOD				
	military strategies which, in concert with other instruments of national power, support national security objectives 4. Critically analyze complex political-military issues and clearly articulate national security strategy options	15) are eligible to enroll,		

22. Specialty Training

Engineers and Architects may wish to pursue training in emerging topics, such as use of new research and prototyping authorities. As an example, one new topic of interest may help engineers and architects involved in RDT&E and construction activities to get an understanding of use of Other Transaction Authority under 10 USC § 4022, *Authority of the Department of Defense to Carry out Certain Prototype Projects*, aligned with E.O. 14265, *Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base*, and SECWAR guidance. This training may help engineers/architects navigate using this authority for the first time for a construction project, or RDT&E efforts.

In addition, Engineers and Architects at some Major Commands and centers, such as Air Force Global Strike Command, Air Force Materiel Command, and the Air Force Life Cycle Management Center have been converted from General Schedule to Acq Demo. For those individuals, Defense Acquisition Workforce Improvement Act (DAWIA) training requirements apply. Department of Defense Instruction (DoDI) 5000.66, para-E.2.2.8, mandates that all individuals, including permanent part-time employees, assigned to acquisition positions must maintain professional currency by achieving 80 continuous learning (CL) points every 2 years, with a goal of 40 points each year. Typically, one CL point equates to one hour of course contact time or other CL event participation. Acq Demo oversight is transitioning from AFMC to DAF (SAF/AQ). This will shift the focus from functional organizations to Directorate-driven, mission-led portfolios, streamlining authority and empowering mission leads to manage their personnel directly. Additional details about Acq Demo training is available in Part 2, Section E.

For more info on PAQ training requirements, visit **HERE** or reach out to the CE PAQ program at AFPC.DPZCD.CEPAQProgram@us.af.mil.

Examples of specialty training are detailed at Table 50.

TABLE 47 SPECIALITY TRAINING

Description	Course	Applicability	Link

Increase enterprise awareness of Other Transaction Authority (OTA) under 10 U.S.C. § 4022, aligned with E.O. 14265 and SECWAR guidance.
 	
Courses Offered
• **Beyond the Contract: Unlocking the Power of Other Transaction Authorities (OTA)**
• **Basic Concepts: Planning, Execution, and Administration of OTAs**
• **Intermediate Concepts: Planning, Execution and Administration of OTAs**
• **Advanced Concepts: Planning, Execution and Administration of OTAs**
 	
Training Offerings and Intended Audience:
• **2-Hour Virtual Introductory Session**
  ○ Designed for senior leaders and staff who need general situational awareness of OTA authorities, policy context, and strategic application.
• **1-Day In-Person Foundational Course**
  ○ Intended for Program Managers, legal counsel, finance personnel, and support staff who require a working understanding of OTA structure, governance, and basic execution considerations.
• 2**-Day In-Person Intermediate Course**
  ○ Geared toward Program Managers and functional leads who will be actively involved in prototype execution and collaboration with Agreements Officers (AOs). Focuses on practical implementation and risk considerations.
• **2-Day In-Person Advanced Course**
  ○ Designed for Contracting Officers and Specialists pursuing or supporting their AO warrant pathway, with emphasis on hands-on execution, documentation, and compliance.
	Rexota Solutions NL2GHTN Acquisition Advisors Course offered at George Mason University and JBSA	As needed	If interested, can reach out to:
			
			Ben McMartin: **BEN@NL1GHTN.COM**
			
			Dolores Kuchina-Musina: **DKUCHINAMUSINA@REXOTA.COM**
			
			Kevin Kostka: **KEVIN@N1GHTN.COM**

Defense Acquisition Workforce Professional Currency requirements are detailed in the USD A&S Defense Acquisition Workforce Professional Currency memo. 80 Continuous Learning Points are required annually. The memo includes a Continuous Learning (CL) Credit guide with recommendations for: • **Formal Training** • **Informal Learning** • **Professional Activities** • **Experience**	Multiple	Engineers and Architects in positions coded as Acq Demo	**HTTPS://ASC.ARMY.MIL/WEB/WP-CONTENT/UPLOADS/2024/12/DEFENSE-ACQUISITION-WORKFORCE-PROFESSIONAL-CURRENCY.PDF**

Description	Course	Applicability	Link
Training for Engineers/Architects in the PAQ program should refer to the DAF CE PAQ program for intern-specific training requirements. Requirements can be found on the PAQ intern training plan web-site, or interns may reach out to the CE PAQ program for more information at: **AFPC.DPZCD.CEPAQPROGRAM@US.AF.MIL**	Multiple	Engineers and Architects who are PAQ interns	**HTTPS://USAF.DPS.MIL/SITES/10016/CE%20PAQ%20PROGRAM/PAQ%20PROGRAM%20DOCUMENTS/FORMS/ALLITEMS.ASPX?ID=%2FSITES%2F10016%2FCE%20PAQ%20PROGRAM%2FPAQ%20PROGRAM%20DOCUMENTS%2FPAQ%20TRAINING%2FTRAINING%20PLANS&VIEWID=B004508C%2DC449%2D4261%2DA160%2D1727D2B4CA6E&CSF=1&CID=02C6AC68%2D9894%2D49F8%2D81A8%2D7D8D0AFEF3A6&FOLDERCTID=0X01200014C1C47CDAC57B4FB1E9B935E42DDAF8**

AcqDemo. Pay scale system that retains, recognizes, and rewards employees for their contributions, and supports their personal and professional development. AcqDemo workforce are divided into three career paths, each with either three or four broadband levels of comparable GS grades and salaries. The three career paths are NH-business/technical management professionals, NJ-technical management support, and NK-administrative support. Quality of performance is evaluated through the Performance Appraisal Quality Level (PAQL). The PAQL system is in transition, but it will be an apportioned, mission-focused system that will ensure that the quality of an employee's performance is measured alongside their mission impact. Part 2, Section E provides details on training requirements for Defense Acquisition Workforce Professional Currency.

AF/A4C. The Directorate of Civil Engineers. In accordance with Air Force Policy Directive (AFPD) 32-10, Installations and Facilities; AFPD 32-20, Fire Emergency Services; AFPD 32-30, Explosive Ordnance Disposal; AFPD 32-60, Housing; AFPD 32-70, Environmental Considerations in Air Force Programs and Activities; AFPD 32-90, Real Property Asset Management; AFPD 10-2, Readiness; and AFPD 10-25, Emergency Management, the Director of Civil Engineers formulates DAF Civil Engineer strategy, policy and implementation guidance supporting AF and DoW strategic goals and objectives plus manages CE enterprise governance to guide the development and execution of the associated strategy, policy, implementation guidance, and related oversight.

AFCFM. Career Field Manager. The focal point for the designated career field within a functional community. Serves as the primary advocate for the career field, addressing issues and coordinating functional concerns across various staffs. Responsible for the career field policy and guidance. Must be appointed by the Functional Manager (FM) and hold the grade of colonel/GS-15 (or equivalent).

AFCEC. Air Force Civil Engineer Center. AFCEC provides civil engineering services and enterprise lifecycle leadership to AF and SF installations that enable the warfighter. AFCEC is installation focused and globally linked to provide best-practice solutions to Airmen…anytime and anywhere. AFCEC is the cornerstone of the CE enterprise by managing all centralized CE functions and optimizing key capabilities.

AFIMSC. Air Force Installation and Mission Support Center. One of the centers under AF Materiel Command, the AFIMSC is the single organizational entity in the AF providing intermediate-level installation and mission support capabilities to supported Major Commands (MAJCOMs) and installations across the full range of military operations.

AFIT. Air Force Institute of Technology. Located at Wright-Patterson AFB, OH, AFIT is the Air Force's graduate school of engineering and management as well as its institution for technical professional continuing education. A component of Air University and Air Education and Training Command, AFIT is committed to providing defense-focused graduate and professional continuing education and research to sustain the technological supremacy of America's air, space, and cyber forces. AFIT accomplishes this mission through four schools: the Graduate School of Engineering and Management, the School of Systems and Logistics, The Civil Engineer School, and the School of Strategic Force Studies. Through its Civilian Institution Programs Office, AFIT also manages the educational programs of officers enrolled at 350+ civilian universities, research centers, hospitals, and industrial organizations.

AFOCD. Air Force Officer Classification Directory The official directory for all military officer classification descriptions, codes, and identifiers.

AFPC. Air Force Personnel Center. Headquarters Air Force Personnel Center (HQ AFPC) executes and integrates United States Air Force (USAF) personnel programs to develop Air Force people and meet the field commanders' needs. HQ AFPC is a Field Operating Agency (FOA) of Headquarters United States Air Force.

AFVEC. Air Force Virtual Education Center. The Air Force's "go-to" site for information about your educational benefits. The site offers a wide range of online services that empowers you to actively take part in all parts of your education-including the ability to create and manage your Tuition Assistance funding requests.

AT&L. Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics). The Office of the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics oversees Air Force research, development, acquisition, and program sustainment activities totaling an annual budget in excess of $60 billion for more than 550 acquisition programs.

AU. Air University. Located at Maxwell AFB, AL, AU is the Air Force's resident home for Professional Military Education as well as Officer Training School (OTS) and Air Force Reserve Officer Training Corps (AFROTC) Field Training. In-resident PME programs include Squadron Officer School (SOS), Air Command and Staff College (ACSC), and Air War College (AWC).

BCE. Base Civil Engineer. Develops and implements civil engineer force employment, and provides staff supervision and technical advice. Performs and manages Civil Engineer functions and activities to provide facilities and infrastructure supporting the United States and allies. Activities include programming, budgeting, project management, drafting, surveying, planning, feasibility studies, construction management, utilities operations, energy and environmental programs, land management, real property accounting, fire protection, explosive ordnance disposal, disaster preparedness programs, family housing and dorm management, and mobilization programs at base level. Serves on response teams and related installation support services. Advises commanders and government officials on effective use of Civil Engineer resources.

BDE. Basic Developmental Education. BDE programs are tactical level programs that introduce employees to the Air Force and DoW missions and prepare them for future leadership, managerial, and leadership roles. Key BDE programs include Squadron Officer School (SOS), the Defense Civilian Emerging Leader Program (DCELP) and the Developing Team Leader Course. Program eligibility requirements vary. See the Civil Engineer Career Field Team SharePoint (here) for more information.

CB. Career Broadener. The CB program is part of the DAF leadership development framework, designed to build functional and institutional competencies while enhancing leadership perspective.

CD. Civilian Development Education. The Air Force CD program is central to the Air Force's Civilian Leadership Development continuum that spans a civilian's professional career (see Part II, Section C for a link to the continuum). The programs included in the CD portfolio prepare civilian students from the Air Force, its sister services, and allied nations for positions of greater responsibility. Emphasis in these programs includes leadership, military doctrine and aerospace power. More information about available programs is (here).

CFETP. Career Field Education and Training Plan. A comprehensive, multipurpose document encapsulating the entire spectrum of training for a career field. It outlines a logical growth plan that includes training resources. The CFETP is designed to identify career field training, eliminate redundancy, and ensure the training budget is defensible.

CFT. Civil Engineer Career Field Team. Functionally oriented teams that execute Force Development policy and programs for civilians.

CL. Continuous Learning. The Office of the Under Secretary of Defense AT&L promotes a philosophy of career-long learning by AT&L workforce members to enhance proficiency and currency. See Appendix A for CL program application guidance and guidelines for crediting CL activities.

CONUS/OCONUS. Continental United States/Outside Continental United States. CONUS refers to United States territory, including the adjacent territorial waters, located within North America between Canada and Mexico. Areas outside the 48 contiguous states are OCONUS. Areas such as Alaska and Hawaii are defined as non-foreign OCONUS.

CSLP. Civilian Strategic Leadership Program. The Air Force civilian enterprise development program designed to provide selected GS-13/14/15 (or equivalent) Air Force employees competencies needed to build a federal corporate culture that drives for results, services customers, and builds successful teams and coalitions within and outside the organization

CTAP. Civilian Tuition Assistance Program. Air Force civilian post-secondary Tuition Assistance (TA) supports civilians in their continued self-development and includes coursework at the associate, bachelor, masters and doctoral levels. TA is for courses that contribute to occupational and institutional competencies, special interest needs and readiness by supporting the current and anticipated needs of the Air Force. This includes courses that will provide employees the breadth of knowledge and problem-solving tools that aid in critical thinking, allowing individuals to address a wide range of problems and weigh alternative solutions. Additional information about TA and CTAP is available in the AFMAN 36-606, Civilian Career Field Management and Development.

Currency. Maintaining proficiency in the community planning occupational series as demonstrated by meeting DoW and Air Force Continuous Learning (CL) standards and performing acquisition duties. See CL.

DCOOL. Defense Civilian Credentialing Opportunities On-Line. DCOOL is a website focused on civilian credentialing opportunities for federal workers. The site provides information about certifications and licenses providing professional growth opportunities in their career areas. At the site, civilians can provide both general information on credentialing as well as specific information on credentials related to their individual federal occupational series. After searching on a federal occupational series by either code or title, users can view a list of credentials related to most or some of their job duties. Clicking on a credential title in the list provides detailed information about that credential, including a description of the credential, its eligibility requirements, exam topics, and recertification requirements. The site is http://dod-civ-cool-review.s3.amazonaws.com/index.htm.

DE. Developmental Education. An array of educational opportunities comprised of professional and specialized education programs, research and doctrinal studies, fellowships, and graduate-level studies. DE spans a member's entire career and provides the knowledge and abilities needed to develop, employ, and command air, space and cyberspace forces.

DAWIA. Defense Acquisition Workforce Improvement Act. This is a standard curriculum that requires the DoW to establish and secure education, training, requirements and courses for civilian and military workforce.

(**D)BCE**. (Deputy) Base Civil Engineer. This position serves as the Deputy to the Base Civil Engineer at a Department of the Air Force or Joint Base installation with responsibilities for all day-to-day support activities provided by the Squadron to the installation and tenant organizations.

Distance Education. Distance education is on the cutting edge of teaching media and takes advantage of delivery methods such as satellite, internet, and computer-based instruction to deliver course information. Many AFIT courses are offered through distance education.

DL. Distance Learning. Includes Video Tele-seminar (VTS), Video Tele-training (VTT), and Computer Based Training (CBT). Formal courses that a training wing or a contractor develops for export to a field location (in place of resident training) for trainees to complete without the on-site support of the formal school instructor. For instance, courses are offered by Air Force Institute of Technology, Air University, and Training Detachment.

DT. Development Team. The Civil Engineering career field DT is comprised of civil engineer senior leaders and is led by the Deputy Director of Engineers (AF/A4C-2). The DT meets bi-annually and provides guidance on civilian development plans, provides advice/feedback on policy issues affecting the workforce, provides vectors to workforce members, and endorses candidates for CD. The DT's mission is to prepare future Air Force Civil Engineering leaders to meet the challenges of shaping the Air Force through appropriate training, education, and experience.

EOC. Emergency Operations Center. The protected site center where coordination and management decisions are facilitated in the event of an emergency incident. (UFC 4-141-04).

FA. Functional Authority. FAs are designated general officers or members of the Senior Executive Service (SES) serving as deputy chiefs of staff or assistant secretaries appointed by the Secretary of the Air Force to provide oversight and functional advisory services related to functional communities. The Assistant Deputy Chief of Staff for Logistics, Engineering and Force Protection (AF/A4-2) is the FA for DAF Civil Engineering.

FM. Functional Manager. Senior leaders, designated by the appropriate functional authority (FA), who provide day-to-day management responsibility over specific functional communities at the MAJCOM, field operating agency (FOA), direct reporting unit (DRU), primary subordinate unit (PSU), or air reserve component (ARC) level. While they should maintain an institutional focus regarding resource development and distribution, FMs are responsible for ensuring their teams are equipped, developed, and sustained to meet the functional community's mission as well as encourage force development opportunities in order to meet future needs of the total Air Force mission. The FM for Air Force Civil Engineering is the Deputy Director of Engineers (AF/A4C-2).

FY. Fiscal Year. For the U.S. Government, the 12-month period covering 1 October to 30 September.

GS. General Schedule. The General Schedule (GS) classification and pay system covers the majority of civilian white-collar Federal employees (about 1.5 million worldwide) in professional, technical, administrative, and clerical positions. GS classification standards, qualifications, pay structure, and related human resources policies (e.g., general staffing and pay administration policies) are administered by the U.S. Office of Personnel Management (OPM) on a government wide basis. Each agency classifies its GS positions and appoints and pays its GS employees filling those positions following statutory and OPM guidelines.

IDE. Intermediate Developmental Education. IDE programs are operational level programs that continue the development and education of mid-career civilians and continue to prepare them to take on increased leadership, managerial, and leadership roles. IDE programs include Air Command and Staff College (ACSC), Executive Leadership Development Program (ELDP), Air Force Legislative Fellows Program (LEGIS), and others. Program eligibility requirements vary. Also see CD and Part II, Section C for a link to CD programs.

IDP. Individual Development Plan. A document used to record short-term training/developmental goals and long-range career goals, to include the specific competencies, knowledge, skills, and abilities necessary to meet current objectives, and training, education, and other professional development strategies used to develop the desired competencies. In conjunction with a performance assistance plan, the individual development plan assists in making civilian performance more effective in present and future positions and is used for civilians below the executive level. More information is available in DAFMAN (36-142, Civilian Career Field Management and Centrally Managed Programs, Section 4.2).

KCP. Key Career Positions. Stepping-stones for individuals to gain expertise that may qualify them to move from functional experts to functional leaders.

LEED. Leadership in Energy and Environmental Design. Leadership in Energy and Environmental Design is the most widely used green building rating system in the world. Available for virtually all building types, LEED provides a framework for healthy, highly efficient, and cost-saving green buildings.

MAJCOM. Major Command. The level of command below Headquarters Air Force (HAF) and directly above Numbered Air Forces (NAF). The Air Force is organized on a functional basis in the U.S. and a geographical basis overseas. The functional MAJCOMs are Air Combat Command (ACC), Air Education and Training Command (AETC), Air Force Global Strike Command (AFGSC), Air Force Materiel Command (AFMC), Air Force Reserve Command (AFRC), Air Force Special Operations Command (AFSOC), Air Mobility Command (AMC), and Air National Guard (ANG). The geographic MAJCOMs are U.S. Air Forces in Europe and Air Forces Africa (USAFE) and Pacific Air Forces (PACAF).

MDP. Master Development Plan. A comprehensive list of desired education, self- development, training, and typical assignments for each level of the career path.

OC. Occupational Competencies. A set of competencies required of all personnel within a specific workforce category (a group of functions requiring similar work, i.e., contracting). They describe technical/functional skills, knowledge, abilities, behaviors, and other characteristics needed to successfully perform that function's mission. A competency identifies behaviors and other attributes and the knowledge, skills, and abilities that define successful job performance. Competencies are important because they are the stepping-stones for civilian development and for the achievement of personnel success and the mission of the Air Force.

OPM. Office of Personnel Management. The U.S. Office of Personnel Management (OPM) serves as the chief human resources agency and personnel policy manager for the Federal Government. OPM provides human resources leadership and support to Federal agencies and helps the Federal workforce achieve their aspirations as they serve the American people. OPM directs human resources and employee management services, administers retirement benefits, manages healthcare and insurance programs, oversees merit-based and inclusive hiring into the civil service, and provides a secure employment process.

OSW. Office of the Secretary of War. The principal staff element of the Secretary of Defense in the exercise of policy development, planning, resource management, fiscal, and program evaluation responsibilities. OSW includes the immediate offices of the Secretary and Deputy Secretary of Defense, Under Secretaries of Defense, Director of Defense Research and Engineering, Assistant Secretaries of Defense, General Counsel, Director of Operational Test and Evaluation, Assistants to the Secretary of Defense, Director of Administration and Management, and such other staff offices as the Secretary establishes to assist in carrying out assigned responsibilities.

PAQ. PALACE Acquire Program. The Professional Advancement, Leadership, Achievement, and Career Enhancement (PALACE) or PAQ Program is designed to attract men and women with management potential to careers as Federal employees with the DAF. This objective is accomplished by recruiting and selecting high-caliber candidates within two (2) years of graduating with an advanced degree and training them to become competent, effective, and productive employees. The DAF provides training and developmental opportunities necessary to gain knowledge, skills, and abilities predictive of successful performance, and provides promotional opportunities for PAQs who successfully complete required training and developmental assignments. PAQ authorizations are administratively controlled and managed by HAF Personnel Center Centrally Managed Program Office. For more information on the PAQ program, refer to AFI 36-130, Civilian Career and Development Programs.

PCIP. Premier College Internship Program. The DAF Premier College Internship Program is a 10-to-12-week summer program for current college and university sophomores and juniors. The student works shoulder to shoulder with DAF Civil Engineers on challenging and rewarding projects that contribute to the mission of the DAF. The goal of the PCIP is to convert these students into the PAQ program, upon graduation.

PME. Professional Military Education. Critical subset of developmental education that: 1) provides the nation with personnel skilled in the employment of air, space, and cyberspace power in the conduct of war, small scale contingencies, deterrence, peacetime operations, and national security; 2) provides DAF personnel with the skills and knowledge to make sound decisions in progressively more demanding leadership positions within the national security environment; and 3) develops strategic thinkers, planners, and war fighters. In addition, professional military education programs strengthen the ability and skills of DAF personnel to lead, manage, and supervise.

PMP. Project Management Professional. Project Management Professional is an internationally recognized professional designation offered by the Project Management Institute.

RC. Reserve Component. The Armed Forces of the United States Reserve Component consists of the Army National Guard of the United States, the Army Reserve, the Navy Reserve, the Marine Corps Reserve, the Air National Guard of the United States, the Air Force Reserve, and the Coast Guard Reserve.

SCPD. Standard Core Personnel Documents. A single core personnel document used for a number of like positions across the DAF issued by AFPC. SCPDs eliminate duplication of effort in composing individual descriptions and eliminate confusion arising from variations in phraseology that do not represent variations in substance.

SDE. Senior Developmental Education. SDE programs are strategic level programs that provide for the deliberate development of senior civilian leaders. These programs provide a more strategic perspective that will prepare senior civilians to lead organization and programs to achieve results in the Joint, inter-agency and multi-national environments. SDE programs include Defense Senior Leader Development Program (DSLDP), Air War College (AWC), The Dwight D. Eisenhower School for National Security and Resource Strategy, and others. Program

eligibility requirements vary. Also, see CD.

SES. Senior Executive Service. The Senior Executive Service (SES) lead America's workforce. As the keystone of the Civil Service Reform Act of 1978, the SES was established to "...ensure that the executive management of the Government of the United States is responsive to the needs, policies, and goals of the Nation and otherwise is of the highest quality." These leaders possess well-honed executive skills and share a broad perspective on

government and a public service commitment that is grounded in the Constitution. Members of the SES serve in the key positions just below the top Presidential appointees. SES members are the major link between these appointees and the rest of the Federal workforce. They operate and oversee nearly every government activity in approximately 75 Federal agencies. The U.S. Office of Personnel Management (OPM) manages the overall Federal executive personnel program, providing the day-to-day oversight and assistance to agencies as they develop, select, and manage their Federal executives.

SME. Subject Matter Expert. A subject matter expert is an individual who exhibits the highest level of expertise in performing a specialized job, task or skill within an organization.

SMS. Subject Matter Specialist. A subject matter specialist excels in various components within their engineering discipline and provides advice to leadership on course of actions required to sustain facilities or infrastructure.

TA. Tuition Assistance. Financial assistance for tuition, laboratory and other instructional fees for academic mission-related courses at accredited post-secondary academic institutions.

TCES. The Civil Engineer School. The Civil Engineer School is one of four schools within the Air Force Institute of Technology, located at Wright-Patterson AFB, OH. The Civil Engineer School provides professional continuing education to Civil Engineers. Course list is available (here).

Total Force. All collective DAF components (active duty, Reserve, Guard, and civilian elements).

WAU. Warfighting Acquisition University. Located at Ft Belvoir, VA, WAU is the Department of War's (DoW)'s institutional authority in implementing Defense Acquisition Workforce Improvement Act (DAWIA) and conferring certification levels. WAU offers a variety of acquisition courses in resident and via Distance Learning.