

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE OVERSIGHT AND INVESTIGATIONS SUBCOMMITTEE
COMMITTEE ON ARMED SERVICES
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: ACADEMIES AND PRIMARY LEVEL PROFESSIONAL MILITARY EDUCATION

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The mission of The United States Air Force Academy is to educate, train, and inspire men and women to become officers of character motivated to lead the United States Air Force in service to the Nation. As one of three accession sources for second lieutenants for the Air Force, we commission approximately 1000 new officers each year. The Air Force Academy operates under US Code, Title 10; along with various other instructions and directives, including AFI 36-2014 Commissioning Education Program.

We recognize our role in the development of career officers and believe we have targeted our objectives to match the developmental needs of young officers in the current national security environment. But, with our eyes on the future, we also instill in our graduates the motivation and skills to take responsibility for their own continued development and to capitalize on future opportunities to grow into a strategic thinker and leader. Therefore, our institution offers a broad spectrum of academic, athletic, military, and character education and training opportunities through which our graduates embrace our core values and develop a high degree of competency in the responsibilities, skills and knowledge they will need to meet the operational needs of the Air Force and the challenges of an ever-changing national security environment.

Our four-year program focuses on three main and 19 supporting developmental outcomes that align with the Air Force's Institutional Competency List and the Association of American Colleges and Universities learning outcomes. This competency list was developed by a team lead by our Air Staff with representation from all of our Air Force educational institutions. Our graduates become committed to their societal, professional, and individual responsibilities, such as ethical reasoning, service to the nation, and intercultural competency. They are empowered by an integrated set of

intellectual and warrior skills such as critical thinking, decision making, courage, and discipline. And, they are grounded in an essential knowledge set associated with the profession of arms and the human and physical worlds. This last main outcome includes such focus areas as the full spectrum of joint and coalition warfare, international environments, the application of air, space, cyberspace power, and principles of science and engineering. The Air Force Academy's curriculum is integrated across the academic, athletic, military, and character mission elements to deliver an intentional and developmental series of classes, training, and experiences that target all 19 outcomes such that our graduates are truly officers of character who possess the requisite professionalism, character, warrior spirit, and sense of service to lead in the world we face today and will face in the future.

Our curriculum for academics, athletics, military training, and character development are among the best in the nation. US News and World Report ranked the Air Force Academy "Best in the West" for baccalaureate colleges for the 2nd year in a row and 8th in the nation for the best undergraduate engineering program. We recently completed our accreditation process under the oversight of the Higher Learning Commission of the North Central Association and were recommended for the maximum 10-year accreditation. Our ten engineering and computer sciences degree programs all received full accreditation last November from the Accreditation Board for Engineering and Technology.

We select our students from among America's best. Our selection criteria examine the whole-person, reviewing academic performance, standardized tests, leadership and community activities, physical aptitude, and medical qualifications. Over 9000 applicants competed for an appointment to the Air Force Academy, but only around 1360 were selected. Our graduates continue to earn national recognition in a number of ways including prestigious scholarships such as 35 Rhodes, 13 Truman, 10 Marshall, 1 Gates and 34 Fulbright Scholarships since 1959. Today, 52 percent of the general officers

in the Air Force are Air Force Academy graduates. Twenty-three graduates have led Air Force Major Commands, seven have commanded Unified Commands, and three have served as the Air Force Chief of Staff.

Our faculty and staff are exceptionally well-qualified for their positions at the Air Force Academy. We have a teaching staff of 525 members, of which 30 percent are civilian. Over 50 percent of our faculty members hold PhDs or terminal degrees in their fields, while the remainder holds a master's degree. Our civilian faculty average over 12 years of teaching experience, while our military faculty average almost 4 years. Our faculty also includes endowed chairs in 6 disciplines, 7 distinguished visiting professors, 8 international officers, 12 sister service exchange officers, and interagency scholars in residence from the CIA, NSA and State Department. Air Force Academy faculty members have been named Colorado Professor of the Year in six of the past seven years—part of a program which recognizes only 40 outstanding professors nationwide each year. Seven faculty members have earned Fulbright Scholarships over the past three years. Another 22 faculty members have earned Air Force-level or national research awards, while three more have earned patents in the fields of laser technology and chemical engineering. Our Air Officers Commanding, who lead each of our 40 cadet squadrons are selected from the top of their year group in an annual board process and each attends a one-year Master's Degree course in Leadership and Counseling prior to taking command.

Our faculty and staff remain current on operational issues through several means. First, approximately 25 percent of our assigned military faculty and staff rotate each year, many with recent deployments from previous assignments. New faculty members bring fresh ideas and practices from the field and introduce them to the rest of the faculty, staff, and cadets through lectures, classes, and research. Over 60 military members of our faculty deploy each year for 179 or

365-day tours, most serving in Iraq or Afghanistan in a variety of tactical and strategic roles. Five military faculty members recently earned Bronze Stars for service during these deployments. Our senior military faculty members serve a one to three year operational tour every five years, contributing their expertise to strategic issues at various worldwide headquarters staffs, and returning with expanded perspectives on current security challenges. Finally, we have 14 research centers and institutes based at the Air Force Academy that support an active cadet-centered research program for the assigned faculty and staff.

Maintaining a high caliber of personnel presents many challenges. These people are in demand throughout the Air Force and other educational centers. We offer an attractive compensation package, a positive work environment, and a challenging academic program to our civilian faculty. As a result, we enjoy an extremely high retention rate among civilian faculty (2% loss rate annually). Most of our challenges lie in attracting and maintaining the right mix of military faculty and arise due to competition with the operational needs of the Air Force. In particular, the shortages of rated officers, scientists, and engineers across the Air Force means it is harder for us to keep these specialties at desired levels both at the Academy and in operational assignments. The assignment process is further complicated by the time required to develop academic credentials. For example, an officer selected for a PhD will be expected to serve outside their operational career field for at least seven years as they attend school and then serve a minimum faculty tour of four years. Many career fields are reluctant to release their top performers for such a length of time.

Deployments present another challenge. While carefully managed deployments can provide a rich set of experiences to enhance a faculty member's expertise in their discipline, these deployments target subject matter experts who are already in short supply across the faculty, sometimes making

class coverage difficult. We are actively working with our personnel center to minimize the costs and maximize the returns from deployments as we support the operational mission of the Air Force.

The last challenge is just the sheer magnitude of the task we face in delivering our curriculum which includes a large core curriculum, 32 majors, and two minors. A recent manpower study validated our need to increase the faculty and staff by 21 percent to meet our current mission requirements. However, there is no funding available to support a matching manpower increase, and many of the shortfalls are in skill sets where we will face the same conflict with Air Force operational needs discussed earlier. Therefore we anticipate this manning shortfall will continue to constrain our ability to accommodate new programs without having to make significant sacrifices elsewhere.

The academic curriculum of the Air Force Academy comprises 147 semester hours of instruction in a broad set of disciplines covering the social sciences, humanities, basic sciences and engineering resulting in a Bachelor of Science degree. The 96 hours of core academic classes taken by all graduates include 45 semester hours in basic sciences and engineering, 45 hours in humanities and social sciences, along with six hours in military strategic sciences—maintaining an even split between technical and nontechnical courses. The remaining courses outside the core curriculum are determined by the requirements and electives associated with athletics and the 32 academic majors we offer.

The balance between basic sciences and engineering on one side and the social sciences and humanities on the other has been relatively stable over the Air Force Academy's 50-year history. Most of the changes over this period were in the types of course offered within each of these four academic divisions. The basic initial curriculum was established by the Air Force Planning Board in 1949 using two organizing principles. First, the Air Force Academy should "provide a broad, general

education with a sound background in aeronautical science and tactics.” Second, it should “maintain a relatively even balance of humanities, sciences, and military studies.” The Stearns-Eisenhower Study of 1949, commissioned by the Secretary of Defense, approved the Planning Board curriculum. The objective to provide a broad, general education with a balance between the sciences and humanities has remained the cornerstone of the Academy’s academic curriculum.

The academic core curriculum has varied over the years from an initial high of about 144 hours prior to 1964 when graduates did not have any academic major to the current core of 96 hours. The core curriculum of today is organized to support the 19 developmental outcomes addressed above and is continually assessed against those outcomes. The sequence of delivery for our core courses is deliberately tailored to support a progressive officer development program within the military training curriculum, as well as to incrementally and coherently build the foundational knowledge to support subsequent core and academic major’s courses.

Several courses from the core curriculum focus directly on the areas of strategy and military history; irregular warfare, interagency and multicultural operations; and language and culture. Each cadet takes two courses from our military strategic studies department. Our sophomore-level course on military theory and strategy focuses on irregular warfare. Our senior-level core course on joint and coalition operations continues this focus and culminates with war games in which cadets apply their knowledge of the spectrum of national security tools. Our core history course addresses the development of military strategy, further expanding a cadet’s exploration of irregular warfare, joint operations, and coalition warfare concepts. Our political science core course devotes one-quarter of its content to exploring how civil-military relationships shape defense policy. Each cadet will also take a minimum of two courses in a foreign language, with those who major in the social sciences or humanities required to take four courses in a language. In our new Strategic

Management core course, cadets examine the interrelationships of power in order to gain insights into how to make decisions in situations that involve complexity and uncertainty. Our Scholars Program offers top-performing cadets a challenging program of core course substitutes in which our top instructors use original texts and seminar discussions to further develop cadet critical thinking skills in these same subject areas. Finally, all cadets will take a senior-level course in geopolitics which focuses on how comparative and regional politics influence current national security issues. Cadets also participate in Honor and Character education classes during all four years of training. The curriculum consists of instruction in Air Force Core values, the concept of honor and character, the honor system, and character development. While only a few of the courses above are new to the curriculum, they all address current national security issues as officers returning from deployments incorporate their experiences into the course, materials from the current debate enter the reading lists, and speakers from the field meet with cadets to address current issues. These experiences ensure every cadet is exposed to joint, interagency and coalition activities and personnel as part of their Academy education.

Outside the core, there are many courses and programs to further develop strategic skills or the special topics discussed above. Our cadet wing leadership responsibilities and summer training programs develop the cadet leadership skills that are foundational to effectiveness in any environment. Each summer 10-20 cadets participate in training with our sister services, to include Airborne and Air Assault training with the Army, Fleet cruises with the Navy, and participating in parts of the Marine Corps Officer Candidate School. All cadets take part in Operation Air Force, working side by side with officers and enlisted at Air Force bases in the CONUS and overseas. The 100 cadets who deploy annually to USAFCENT experience first-hand the roles of Airmen in combat support roles. Almost 600 cadets participated in 4-6 week language or cultural immersion programs in over 40

countries. Twenty cadets spend a semester abroad at allied service academies and we host approximately 50 international exchange cadets each year. This year the Academy will host a special symposium entitled “Building the Bridge from War to Peace: Defining Interagency Roles in Rebuilding a Nation” in which over 200 students from across the country will join our cadets and faculty to address issues associated with interagency and stability operations. We are the only undergraduate institution in the country that competes internationally in the field of Unmanned Aerial Systems (UAS) and cadets work with local Army units to integrate UAS in unit field training exercises. Our cadets also compete against the other service academies in an NSA-sponsored computer network defense exercise and conduct cyberwarfare research with several local universities.

Our emphasis on creating a learning-focused environment has shifted the balance from exposing cadets to broad content toward helping them understand and apply the principles and knowledge of each subject. The heart of our learning-focused approach is to clearly articulate the learning goals we have for cadets, create educational experiences that allow that learning to take place, and then assess the extent to which our learning goals are met. This approach directly links all of our course objectives to the 19 developmental outcomes, involves our cadets directly in discussions, work groups, and laboratories that let them apply and learn the concepts under discussion, and ensures we receive real-time feedback on the degree of learning achieved by the cadets. While the contact time with cadets has remained relatively stable over time, this change in how we use that time has created a much more efficient learning environment. Outside the classroom, our schedule includes a dedicated, three-hour long Academic Call to Quarters each weeknight reserved exclusively for study. Based on the quality of our faculty, combined with our number one national ranking for instructor accessibility, we believe cadets have the time, opportunity, and support to master the rigorous content in our curriculum.

We recognize that the Air Force Academy is only the start of the process by which we develop the next generation of strategic leaders for the Air Force. But we feel that it is our mission to set them firmly on the path toward this objective by providing the critical foundation that supports their development as strategic thinkers. Our developmental outcomes were designed to form the base from which our graduates can assimilate new ideas and expand their capabilities. Perhaps more importantly, we believe that as junior leaders in the military, our graduates must be able to turn the big ideas of senior leaders into operational reality on the ground while simultaneously addressing urgent and unexpected situations of strategic importance under extreme stress. Thus it is increasingly important that we develop these attributes as early as possible in an officer's career.

We are very proud of our efforts to integrate our academic, military, athletic, and character programs to focus on the key competencies of a leader of character. The key to our continued success is maintaining the quality of our faculty and staff, which we continue to do despite significant challenges. We will continue to work hard with our sister service academies and higher level institutions to match our efforts to the needs of the ever-changing security environment. We will continue to provide the Nation with the best and brightest new officers-leaders of character with the knowledge, skills, and responsibilities to lead our Air Force in service to the Nation.