

**UNITED STATES
AIR FORCE ACADEMY
PREPARATORY SCHOOL**



CATALOG

THE UNITED STATES AIR FORCE ACADEMY

PREPARATORY SCHOOL

MISSION

To prepare a diverse group of cadet candidates in academics, military training and athletics to succeed and lead at the United States Air Force Academy.

VISION

Producing USAFA's best prepared 4th class cadets ready to succeed and lead!



This handbook contains detailed information about the USAF Academy Preparatory School, its curriculum, and policies. While every effort has been made to ensure accuracy, the Preparatory School reserves the right to make corrections and changes to the information contained in this and subsequent issues of the handbook to meet the varying needs of the United States Air Force and the Preparatory School. This handbook should not be considered a contract between the USAF Academy and any prospective cadet candidate.

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PREP SCHOOL STUDENTS

The U.S. Air Force Academy Preparatory School provides a special opportunity for selected young men and women to earn an appointment to the United States Air Force Academy. Graduation from the Prep School's challenging program will increase the student's potential for admission and successful completion of the Academy's rigorous academic, military, athletic, and character programs.

Students at the Prep School come from three sources: Regular airmen who are on active duty, airmen who are part of the Reserve component, and civilian high school graduates. All students are enlisted into the Air Force and placed on active duty to attend the Prep School. Approximately 240 students between 17 and 22 years old begin the 10-month program in mid-July. The academic program includes three subject areas: English, Mathematics, and Science. It begins with a review of high school and rapidly expands to cover the equivalent of a college year of study in these areas. Additionally, students participate in military training, physical conditioning, athletics, and character development.

To earn an appointment to the Academy, students must complete Prep School graduation requirements, meet Academy entrance requirements, obtain a nomination to the Academy and be offered an appointment by the Academy Board.

CANDIDATE INFORMATION

Students who accept the offer of an appointment to the Preparatory School from the USAF Academy Admissions office will receive a letter from the Preparatory School Commander advising them of reporting dates. The letter also contains instructions

concerning travel and items to bring.

All appointed candidates will receive information packages detailing the amount of money they should bring with them to cover initial expenses. Much of the equipment required for students' schooling will be furnished by the government. However, there are some expenses (e.g., athletic clothing, textbooks, test fees, activity fees, yearbook fees, and miscellaneous personal items) for which students will be responsible. Appointees are required to sign a statement agreeing to pay for these items. All appointees enter the Prep School with a military rank. Prior-enlisted candidates will be paid in accordance with their current rank; all others will be paid 35% of Second Lieutenant's pay. All are subject to the Uniform Code of Military Justice.

Students must reapply for appointment to the Air Force Academy. To ease this process, students will be advised of nomination procedures shortly after arriving at the Prep School. Students will be informed of other Academy admissions requirements throughout the year.

Because of limited parking space, financial liability, and the highly demanding schedule at the Preparatory School, students are not permitted to have automobiles. Cars may be rented for off-duty time if desired.

Students may bring some civilian clothing--both summer and winter--for wear during off-duty privileges. They may bring a small radio. Students are not permitted to bring large electronic equipment or any type of television set. Televisions are provided in dormitory lounges, but are not permitted in the rooms.

The entire Preparatory School program is highly challenging and requires consistent effort across three mission elements--academics, military, and athletics.

CADET CANDIDATE ACTIVITIES

Typical Day

The cadet candidate's typical day is very demanding. It consists of academic classes, military training, individual and team sports, and a mandatory study period each evening. In addition, they must fit in normal activities: eating, sleeping, cleaning their rooms and dorms, washing clothes, etc. Students must learn to plan their time and organize their efforts in order to successfully complete each day's activities.

Daily Schedule

6:00 AM	Release from Quarters
6:15 – 7:15	Breakfast
7:35- 8:50	1 st Academic Period
8:55 -10:10	2 nd Academic Period
10:15–11:30	3 rd Academic Period
11:40-12:40	Lunch
12:50-1:50	Military Training
2:00-3:00	Extra Instruction
3:10-5:40	Athletics
5:45-6:45	Dinner
7:00-9:30	Academic Call to Quarters
10:00 PM	Lights Out/Taps

Athletics

The Prep School offers both team and individual sports opportunity. Typically up to 80% of the cadet candidates participate in a team activity.

Traditionally, the Prep School fields Men's and Women's Basketball, Men's and Women's Soccer, Football, Volleyball and Wrestling. Based on the cadet candidates in attendance at the Prep School, there may be Track Sports, Swimming, Gymnastics, Rifle, Tennis, Lacrosse, and Golf programs.

Leaves and Passes

Cadet candidates may take leave (vacation) during Thanksgiving, winter holidays, and spring break. Students who perform satisfactorily in all phases of their instruction may have the privilege of departing from the Preparatory School grounds on weekends but will be required to stay in the local area.

A student who has academic, military, or other deficiencies may be limited to the school area on weekends. The Military Training Commander will determine when students may wear civilian clothing off-duty or off base.

After graduation, cadet candidates who are selected to enter the Academy will have approximately 45 days without duty until the cadet class reports in late June-early July to the Academy. During this time they will be in excess leave status. They will not be paid but will continue to have medical insurance and will remain under the Uniform Code of Military Justice. Upon entering the Air Force Academy, cadet candidates will be relieved from active duty and readmitted as cadets.



Academy Admission

All cadet candidates are required to compete under all eligible nominating categories for an appointment to the

Academy. There is no minimum achievement that will guarantee cadet candidates an appointment to the Academy, but historically over 75% of those who enter the Prep School earn an appointment. That percentage is significantly higher than other nomination categories.



ACHIEVING SUCCESS

Academic Requirements

The Prep School is not high school – students will be taking college level courses. The standards are high. Finals are given at the end of each quarter, and a normal week may include several quizzes or major exams.

Each course requires daily homework. The average student spends three to four hours per day studying, Sunday through Thursday, plus five to ten hours during the weekend. The dormitories are maintained in a quiet but relaxed atmosphere. In this environment, it is imperative that all cadet candidates realize they are students first and other interests are secondary.

The Preparatory School acts in the best interest of the student. Each academic department is dedicated to helping students succeed academically. Instructors are available during a dedicated Extra Instruction period daily and during student off-periods, upon request, to provide extra instruction/tutoring. If students experience

difficulty in any subject area, problems are identified early enough for students to seek additional instruction.

Courses taken at the Prep School are normally not transferable for college credits, although former students may request a copy of their student transcript at any time after their departure.

Preparatory School Graduation Requirements

To successfully complete the Prep School program, a student must meet the following requirements under Academics, Physical Fitness, and Military Performance:

(1) Meet the academic grade-point average (GPA) requirements:

- a. A 2.0 cumulative GPA, identified by a letter grade of C, with a range of 70 – 77%.
- b. Satisfactory performance in each academic discipline—English, Math and Science.
- c. Minimum academic requirements are subject to change. The current grading scale is as follows:

Grade	Grade Point Value	Percent
A	4.0	92-100
A-	3.7	90-91
B+	3.3	88-89
B	3.0	82-87
B-	2.7	80-81
C+	2.3	78-79
C	2.0	70-77
C-	1.7	68-69
D	1.0	60-67
F	0.0	0-59

(2) Meet the physical requirements: satisfactory completion of the Physical Fitness Test (PFT) and Aerobic Fitness Test (AFT) is one of the requirements for admission to the United States Air Force, Military, and Naval Academies. The PFT/AFT is a test of strength, agility, speed, and endurance. The fitness testing program promotes maximum fitness and recognizes cadet-candidates who excel in maintain their personal fitness.

	MEN		WOMEN	
EVENT	Min	Max	Min	Max
Pull-Ups	7	21	1	8
Long Jump	7'0"	8'8"	5'9"	7'2"
Sit-Ups	58	95	58	95
Push-Ups	35	72	18	48
600 yard run	2:03	1:35	2:23	1:53

	MEN		WOMEN	
EVENT	Min	Max	Min	Max
1.5 Mile Run	12:25	7:45	14:17	8:55

(3) Demonstrate an aptitude for commissioned service and leadership, with actions satisfactory in conduct and personal integrity:

Military Performance Average (MPA) –The MPA program is a feedback and assessment approach that includes competency-based, evaluative inputs regarding the Cadet Candidate’s daily life from individuals who observe and interact with the C/C in an official capacity. This effort involves MTOs, coaches, and instructors. The collection of inputs is aggregated and provided to the C/C’s Academy Military Trainer (AMT) for review at the end of each quarter.

Air Force Academy Appointment Requirements

The USAFA Preparatory School and Directorate of Admissions evaluates each candidate, based on a whole person concept. The candidate must demonstrate academic aptitude, display exemplary conduct and integrity, maintain good physical fitness, and **be recommended by the Preparatory School Commander.** The following objective guidelines are part of the review process.

Academics

- a) Maintain a grade of a C or better in all academic disciplines
- b) Maintain a cumulative GPA of 2.0 or better

Candidate Physical Fitness

- a) Demonstrate continued improvement on the physical fitness test
- b) Maintain good physical fitness

Nomination

Apply for a nomination from both Senators, the Representative from their Congressional district and the Vice President.

Military

- a) Maintain conduct that supports the Air Force core values: Integrity First... Service Before Self... Excellence in All We Do.
- b) Maintain a Military Performance Average (MPA) of 2.0 or better.

In addition the USAFA Preparatory School and Directorate of Admissions will

conduct a whole-person review of the Cadet Candidate's performance and potential. The failure to meet all of the above criteria MAY negatively impact their ability to receive an appointment to the USAF Academy as a Cadet. If the Cadet Candidate has already been appointed and falls below these levels, their appointment may be withdrawn.

The Preparatory School Commander will provide a recommendation to the Academy Board, the final authority concerning appointments to the US Air Force Academy.



Regular Airman Information (Enlisted Candidates)

Regular Airmen who enter from the enlisted corps may find the following information useful as a new or prospective cadet candidate at the USAF Academy Preparatory School.

Regular Airmen retain their rank and are paid accordingly; however, grade insignia must be removed from all uniforms while attending the Prep School. Specially designed shoulder boards will be worn by all students.

Regular Airmen selected for the USAF Academy Prep School with a promotion date prior to entry, will be promoted. Airman with promotion dates after entry will not be

promoted at the Prep School. Prior service dis-enrolled Airmen receive the grade determined by AFI 36-2604, *Service Dates and Dates of Rank*.

Regular Airmen disenrolled from the Prep School program will update assignment preferences in Virtual Military Personnel Flight (VMPPF). However, the needs of the Air Force will determine re-assignment actions. It normally takes two weeks to obtain an assignment after a regular Airman dis-enrolls. Regular Airmen are normally returned to duty in their primary Air Force Specialty Code (AFSC). Regular Airmen who were in the middle of a technical school prior to coming to the Prep School normally are not returned to the technical school; they are usually retrained into a new AFSC at their next duty station. Regular Airmen cannot obtain information such as next duty assignment and/or AFSC, until they dis-enroll from the Prep School program.

Regular Airmen are required to complete about three weeks of Prep School basic training along with reserve Airmen. There are no special privileges for Regular Airmen while attending the Prep School. All students are treated equally. Regular Airmen must bring their complete military clothing issue. Any uniform not serviceable must be replaced at the individual's expense **immediately** upon arrival.

Reserve Airman Information (Civilian Candidates)

When admitted to the USAF Academy Preparatory School, civilian candidates will become Airmen Basics in the U.S. Air Force Reserve. Reserve Airmen may find the following information useful as a new or prospective student at the USAF Academy Preparatory School.

Reserve Airmen who attend the Prep School are called to active duty for the period of time necessary to complete the Prep School program. For retirement purposes, this active duty time is counted the same as if they enlisted in the regular Air Force. A reserve Airman called to active duty to attend the Prep School is not considered a regular Airman.

Reserve Airmen will receive a designated rate of pay as determined by Congress (currently 35% of Second Lieutenant's pay).

Reserve Airmen who dis-enroll from the Prep School are discharged from the United States Air Force with no obligation to serve in the inactive Reserves. AFI 36-2021

Reserve Airmen receive an issue of military clothing upon arrival at the Prep School. Any clothing items that are lost or damaged after the initial issue must be replaced at their own expense.

ACADEMIC CURRICULUM

The Preparatory School divides the academic year into four quarters (Fall I, Fall II, Spring I, and Spring II). The academic year consists of approximately 80 lessons and each quarter consists of approximately 20 lessons.

Each lesson is on a two-day block schedule designated a "M" and "T" day. Thus one lesson is completed over the course of a M and T day cycle. Class length is 75 minutes and there are three class periods each day (designated as M1, M2, M3; T1, T2, T3).



The Preparatory School curriculum requires courses from English, Math, and Science. A typical student will take approximately four courses each quarter and normal course load in each term consists of one English course, two mathematics courses, one science course, and may include a learning skills or reading course.



Academic Advising

Each student is assigned an academic advisor at the beginning of the year. The academic advisor monitors the student's progress, reinforces study skills and time management techniques, and motivates the student to help him or her achieve their best academic performance. Students are required to meet with their academic advisor on a regular basis.

Department Of English

The mission of the Preparatory School Department of English is to prepare Cadet Candidates for entrance to and academic success at the United States Air Force Academy.

The English Department conducts a reading assessment to determine who our most at-risk readers are. Those students scoring in the bottom ten percent will take a non-credit reading course in one of the last three quarters.

English Course Descriptions

Eng 100, Preflight – Life and Learning Skills (Fall I). Created and administered by the English department and taught by faculty from across disciplines and across mission elements. The course teaches both life skills (time management, decision-making, etc.) and study skills. Classes meet for roughly half of the quarter, with students meeting with their advisors or implementing some of the study strategies to prepare for their other classes on the remaining lessons. Much of the work comes in the form of journaling.

Eng 101, The Personal Essay (Fall I). English 101 is the starter course for the English sequence, giving students out of writing practice, the opportunity to loosen up their writing muscles. Students write a series of personal essays to allow them to focus on their own ideas without the need to research. The course also reviews the basics of grammar and mechanics.

Eng 102, Writing Arguments (Fall II). The second course in the basic sequence focuses on the fundamentals of argumentation, including Aristotle's

rhetorical triangle of logos, ethos, and pathos. Students are introduced to basic research and documentation.

Eng 103, Writing the Research Paper (Spring I). The third installment in the English sequence extends the emphasis on both argument and research. Students grapple with a substantial text and write a 7-8 page research paper. The lead-up to the research paper consists of a systematic progression from topic selection through research, validation of sources, note-taking, and drafting. The end product serves as the "Gateway" assessment in English, the department measure of the students' preparation for writing at USAFA.

Eng 104, Themes in Literature (Spring II). English 104 is the one course in which literature plays a significant role. In the latest versions of the course, students have read and analyzed a novel in the first half of the course. The second half put the students through the paces reading and writing poetry. One important goal of the course is to reenergize the students' interest in English, writing, and reading before they head off to the Academy.

Eng 105 Reading and the Social Sciences (Fall II, Spring I, or Spring II). This course is intended to address perceived student shortcomings in Prep School graduate performance in courses like History 101 and Behavioral Science 100. The current edition focuses on US history of the revolutionary/constitutional period. Students read chapters from a college history text, and are tested on key concepts and write short essays on narrow historical topics.



Eng 106, Reading Enhancement(Fall II or Spring I). The Reading Enhancement Course was designed to improve students' reading skills by providing sound strategies and techniques. During each lesson, students learned a new reading skill and practiced the skill with a variety of reading material.

Eng 107. English Remediation. English 107 is designed as a last chance course to boost those students who are sitting on the English bubble for a recommendation to the Academy. The course is loosely based on English 104 but tailored by the course director to allow more writing and more individualized instruction.

Enrichment Program (both spring quarters). A small number (6-8) of our best performers in the fall semester are selected to take English 111 at the Academy in the spring semester. Successful completion of English 111 results in course validation credit upon entry to the Academy. Students enrolled in English at the Academy, do not take English 103 or English 104 at the Prep School.



Department Of Mathematics

The mission of the Prep School Mathematics Department is to prepare cadet candidates with fundamental mathematical skills and abilities – particularly in Algebra and Trigonometry – for admission to the United States Air Force Academy and with the opportunity for success in their remaining courses; instill an appreciation for the interrelationship of mathematics with other disciplines, provide an opportunity to communicate technical information

Math Course Descriptions

Math 100, Algebra Basics This 10-lesson hard-hitting review of fundamental, essential algebra skills and concepts is designed as a review of the most essential algebra skills and concepts and also as a vehicle to identify C/Cs whose basic algebra skills need significant strengthening via the Skills Track courses. Topics include number sense, exponents and radicals, factoring, linear equations, and rational numbers and rational expressions.

Math 110. Algebra Skills (Fall II). This is a fundamentals course in essential arithmetic and algebra skills for students that need additional focus on these important skills. Particular emphasis is placed on consistently applying good math techniques and problem solving methods. Topics include the real number system, rational numbers and rational expressions, exponents and radicals, factoring, applications problems, and literal equations.

Math 111, Algebra (Fall I). This first course in a three-course algebra sequence focuses on the building blocks of arithmetic and algebra. Topics include the real number system, integer and rational exponents, the order of operations, polynomials, factoring, rational expressions, and radicals. We also introduce the student to the algebra of functions, linear equations with modeling, graphing, symmetry, and transformations.

Math 112, Algebra (Fall II). Continuing with algebra, this course includes additional topics from functions, equations, graphing, and inequalities. We revisit linear equations and models, then move on to complex numbers, quadratic equations, quadratic functions and models. The second portion of the course includes inverse functions, exponential and logarithmic functions and their graphs, applications and models, and we finish with growth and decay.

Math 113, Algebra (Spring I). The third term of algebra includes polynomial functions and models, polynomial division, rational functions and their graphs, polynomial and rational inequalities, variation and applications. We also cover systems of equations and the conic sections.

Math 114, Math Applications (Spring II). This is an introductory course in the mathematical modeling of statics problems found in physics and engineering mechanics.

Topics include units of mass and weight, free-body diagrams, vectors, forces, moments, equilibrium, systems of equations, and truss analysis. This course provides preparation for core Physics, Engineering, and Engineering Mechanics courses at USAFA.

Math 131/121, Trigonometry (Fall I). This first course in trigonometry includes the six trigonometric ratios, right triangle trigonometry with applications, the unit circle, radian and degree measure, arc length and angular velocity, and the trigonometric functions and their graphs. This course also includes verifying and employing trigonometric identities, and solving trigonometric equations with applications.

Math 132/122, Trigonometry (Fall II or Spring I). Continuing the study of trigonometry, the topics of this course include the inverse trigonometric functions, the Law of Sines and the Law of Cosines, polar coordinates, vectors, and vector operations.

Math 133/123, Introduction to Calculus (Spring I or Spring II). We begin the study of calculus with an introduction of limits, evaluating limits, the concept of continuity and one-sided limits, and infinite limits. From this foundation the student moves into differentiation. Topics covered in this portion of the course include the definition of the derivative, the tangent line problem, and basic rules of differentiation. Particular emphasis is placed on correct algebraic manipulation of the equations involved in solving calculus problems.

Math 134, Principles of Differential Calculus (Spring II). This course completes the introductory study of differential calculus. The topics covered include: higher-order derivatives, rates of change, the product and quotient rules, the

Chain Rule, implicit differentiation, related rates, extrema on an interval, increasing/decreasing functions, and optimization.

Math 141 (Enrichment), Freshman Differential Calculus (both spring quarters). Cadet candidates who are top performers in Prep School math classes have the opportunity in the spring semester to take the full differential calculus course with the 4-degree cadets at the USAF Academy. In this course these students will be challenged with a complete freshman-level course in differential calculus.



Department Of Science

The mission of the Prep School Science Department is to provide educational experience, study skills, and problem solving strategies that will best ensure student success, not only during the United States Air Force Academy's first year science curriculum, but throughout the entire four-year program at the Air Force Academy. This is accomplished through a curriculum that teaches a variety of learning strategies, covers a wide range of key topics in chemistry and physics, and emphasizes study skills and problem solving. Additionally, the department strives to inspire and motivate cadet candidates to pursue a technical education at the United States Air Force Academy, to serve as Air Force officers, and

to live with honor, integrity and respect for others.

Science Course Descriptions

Sci 131, Fundamentals of Science (Fall I).

This course is the first in a series of 4 that introduces the fundamentals of science and chemistry. Topics include measurements, graphing, atomic theory, quantum mechanics and electron configurations. Laboratories are integral to the course.

Sci 132, Fundamentals of Chemistry I (Fall II).

The fundamentals track covers fewer topics than the regular track in Principles of Chemistry while still preparing students for science classes at the USAF Academy. It is taught at a slightly slower pace with more emphasis on problem solving. This course is the second in a series of 4 and will review quantum mechanics and will also cover periodic trends in properties of the elements. Additional topics include nomenclature, bonding, Lewis structures and molecular geometry.

Sci 133, Fundamentals of Chemistry II (Spring I).

This course is the third in a series of 4 that begins with a review of molecular geometry. Topics also include writing and balancing chemical equations, stoichiometry, chemical reactions of aqueous solutions including precipitation reactions, acid-base reactions, and oxidation-reduction reactions, and finishes with thermodynamics.

Sci 134, Fundamentals of Chemistry III (Spring II).

The final course in this sequence begins with a review of thermodynamics. New topics include gas laws, intermolecular forces, concentration units and colligative properties.

Sci 142, Principles of Chemistry I (Fall II).

This course is the second in a series of 4 in the regular track of the program. Topics

include periodic trends in properties of the elements, nomenclature, bonding, Lewis structures and molecular geometry. The course finishes with writing and balancing chemical equations and stoichiometry.

Sci 143, Principles of Chemistry II (Spring I). This course is the third in a series of 4 in the regular track of the program. Topics cover chemical reactions of aqueous solutions including precipitation reactions, acid-base reactions, and oxidation-reduction reactions, thermodynamics, gas laws and finishes with intermolecular forces.

Sci 144, Principles of Chemistry III (Spring II). Topics in the final course of the regular track include concentration units, colligative properties, reaction rates, chemical equilibrium and finishes with acids and bases.

Sci 153 – 154, Physics Mechanics (Spring I and Spring II). Physics Mechanics course. This course covers Newtonian Physics with the opportunity to validate Physics 110 at USAFA through demonstrated proficiency on the final exam. Topics include kinematics, Newton's Laws, rotational motion, conservation of energy and conservation of momentum. These two courses substitute for Math 113 and Math 114 for more advanced students.

CLOSING

This catalog provides cursory information about the Air Force Academy Preparatory School. If you desire more information about the Preparatory School, please contact us at:

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