UNITED STATES MILITARY ACADEMY

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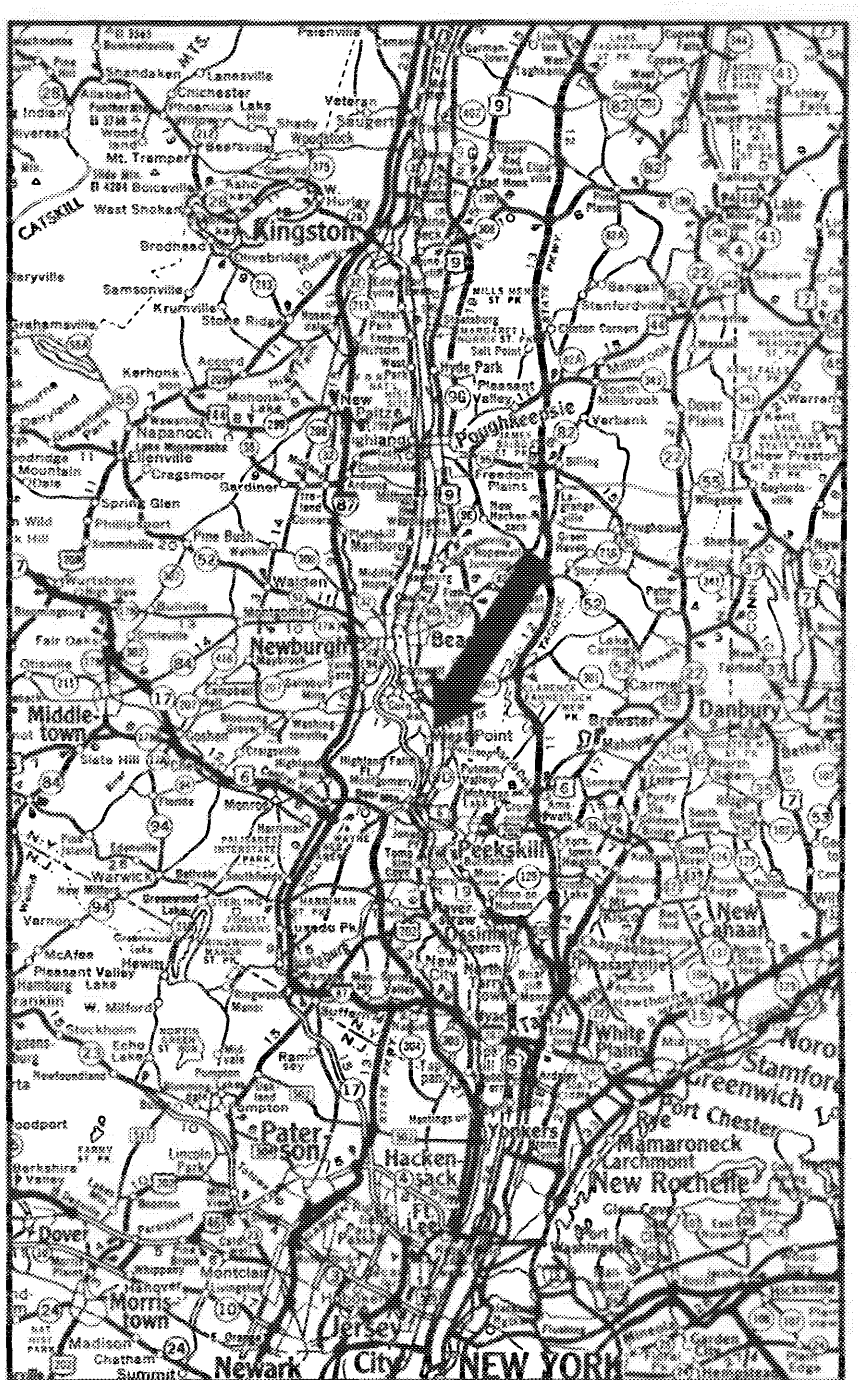
1963–1964 CATALOGUE

ONE HUNDRED SIXTY-SECOND YEAR



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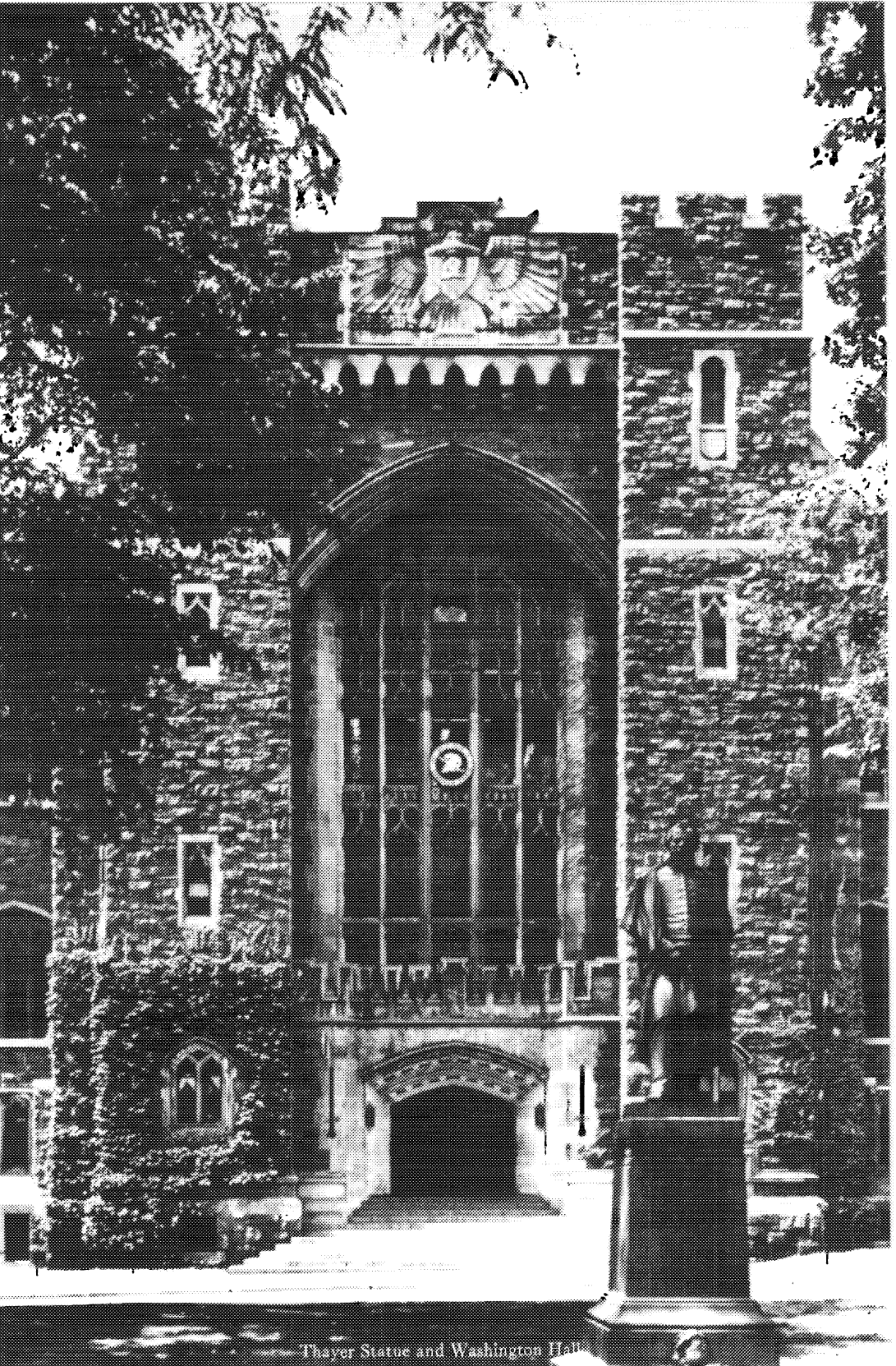
UNITED STATES MILITARY ACADEMY

CATALOGUE

1963 1964

One Hundred and Sixty-second Year



Thayer Statue and Washington Hall

MISSION OF THE MILITARY ACADEMY

The mission of the United States Military Academy is to instruct and train the Corps of Cadets so that each graduate will have the qualities and attributes essential to his progressive and continued development throughout a lifetime career as an officer of the Regular Army.

Inherent in this mission are the following objectives:

1. Mental—To provide a broad collegiate education in the arts and sciences leading to the Bachelor of Science degree.

2. Moral—To develop in the cadet a high sense of duty and the attributes of character with emphasis on integrity, discipline, and motivation essential to the profession of arms.

3. Physical—To develop in the cadet those physical attributes essential to a lifetime career as an officer of the Regular Army.

4. Military—To provide a broad military education rather than individual proficiency in the technical duties of junior officers. Such proficiency is, of necessity, a gradual development, the responsibility for which devolves upon the graduates themselves and upon the commands and schools to which they are assigned after being commissioned.

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ACADEMIC CALENDAR 1963–1964

1963

1 JULY	*Monday*	New Fourth Class enters. (Class of 1967)
4 JULY	*Thursday*	Independence Day. Duties suspended.
2 SEPTEMBER	*Monday*	Labor Day. Duties suspended.
3 SEPTEMBER	*Tuesday*	First term begins.
11 NOVEMBER	*Monday*	Veterans Day. Classes suspended.
28 NOVEMBER	*Thursday*	Thanksgiving Day. Classes suspended.
7 DECEMBER	*Saturday*	First College Board test date for Competitive Candidates.
21 DECEMBER	*Saturday*	Christmas leave for three upper classes begins at 12:00 noon.

1964

5 JANUARY	*Sunday*	Christmas leave for three upper classes ends at 5:30 p.m.
11 JANUARY	*Saturday*	Final College Board test date for Competitive Candidates.
18 JANUARY	*Saturday*	First term ends at 12:00 noon.
20 JANUARY	*Monday*	Second term begins.
22 FEBRUARY	*Saturday*	Washington's Birthday. Classes suspended.
4 MARCH	*Wednesday*	Entrance examinations begin at designated military stations.
19 MARCH	*Thursday*	Spring leave for three upper classes begins at 3:15 p.m.
22 MARCH	*Sunday*	Spring leave for three upper classes ends at 6:00 p.m.
28 MAY	*Thursday*	Second term ends.
30 MAY	*Saturday*	Memorial Day. Duties suspended.
31 MAY	*Sunday*	Baccalaureate Sunday
3 JUNE	*Wednesday*	Graduation.
9 JUNE	*Tuesday*	Special entrance examinations begin at West Point.
1 JULY	*Wednesday*	New Fourth Class enters. (Class of 1968)

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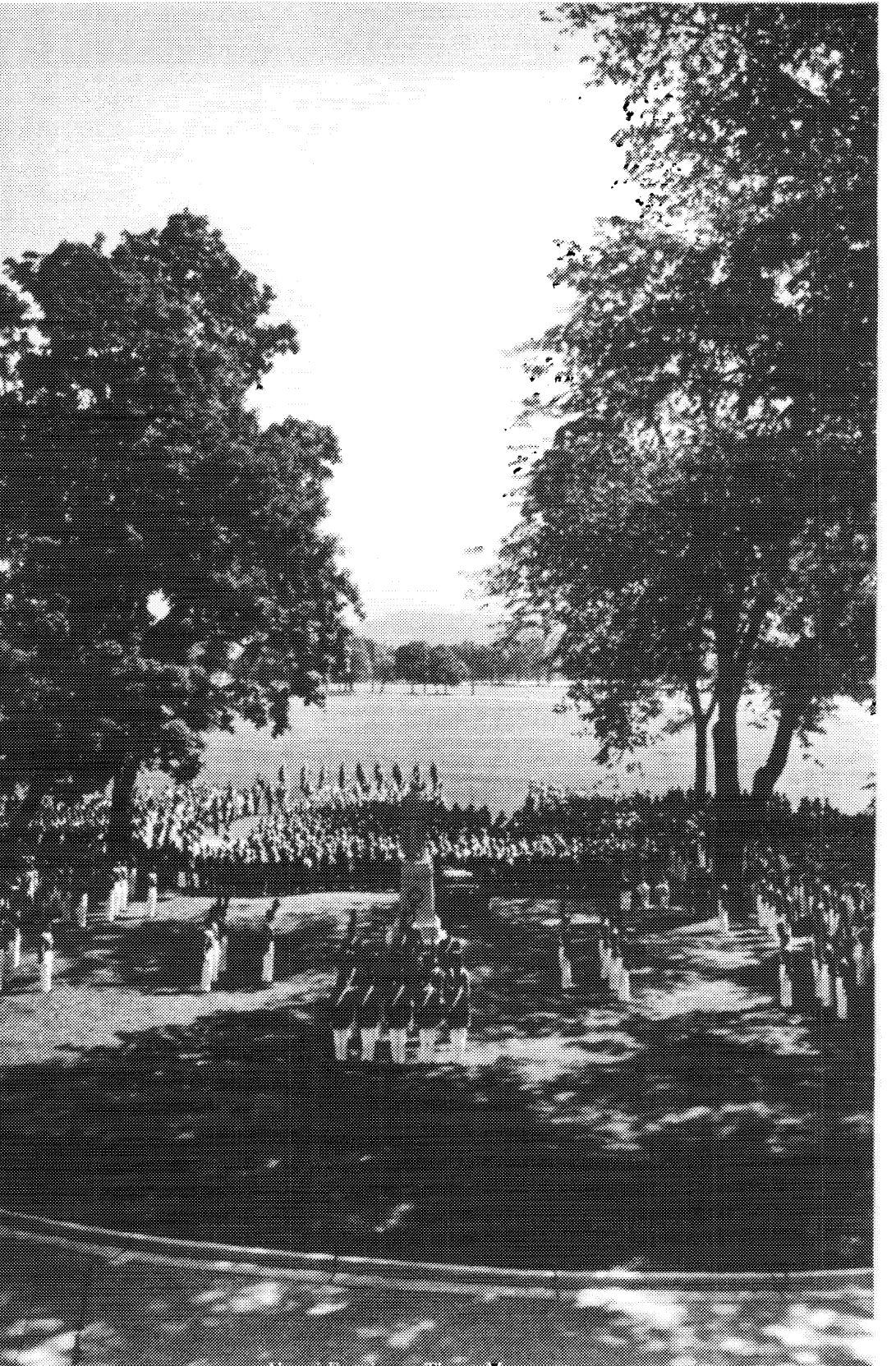

HISTORY OF WEST POINT

The United States Military Academy was established officially on 16 March 1802 at West Point, a key Hudson River military fortress during the Revolution, and was opened on 4 July 1802.

Two compelling reasons made the formation of an American military academy at that time both logical and necessary: the experience of the Revolutionary War; and the ominous international political situation when Thomas Jefferson became President in 1801.

The experience of the Revolutionary War, during which America had to rely in large part on foreign drillmasters, artillerists, and trained engineers, made the military and political leaders of the day energetic backers of a military academy. The earliest proposal was in 1776 by Col. Henry Knox who recommended "An Academy established on a liberal plan . . . where the whole theory and practice of fortification and gunnery should be taught." The papers of Gen. Benjamin Lincoln, Gen. Jedediah Huntington, Secretary of War Timothy Pickering, John Adams, Alexander Hamilton, and George Washington mention time and again the need for an academy. In his annual messages to Congress, Washington always included a plea that the Congress provide facilities for the study of military art. In 1797 in his eighth annual message, for example, he said:

> The institution of a military academy is also recommended by cogent reasons. However pacific the general policy of a nation may be, it ought never to be without a stock of military knowledge for emergencies. . . . [The art of war] demands much previous study, and . . . [knowledge of that art] . . . in its most improved and perfect state is always of great moment to the security of a nation. . . . For this purpose an academy where a regular course of instruction is given is an . . . expedient which different nations have successfully employed.

The military academies that "different nations" had "successfully employed" and that Washington likely had in mind were England's Royal Military Academy at Woolwich, founded in 1741, and France's Ecole Polytechnique, founded in 1794. The Royal Military College at Sandhurst in England was founded the same year as our own Academy, 1802. And Washington quite obviously realized that

complete independence for America called not only for the severance of political ties from England and the formation of an independent political state, but also for independence in every facet of national life and culture: in law, religion, agriculture, shipbuilding, trading, manufacturing, and military science. How deeply he continued to feel about the need for an Academy appears in a letter written 2 days before his death and addressed to Alexander Hamilton:

> The establishment of an Institution of this kind, upon a respectable and extensive basis, has ever been considered by me as an object of primary importance to this country; and while I was in the Chair of Government, I omitted no opportunity of recommending it, in my public speeches and other ways, to the attention of the Legislature.

The second compelling reason for the immediate establishment of an American military academy was the ominous international political situation of 1801–02. The previous two decades had been troublesome ones. The weak and ineffectual Articles of Confederation and Perpetual Union, trouble with the Barbary pirates, Shays' rebellion, boundary disputes, frontier battles, currency quarrels; these had plagued the young nation, and now it was threatened by the danger of involvement in the complexities that were coming as an aftermath of the French Revolution of 1789. Public opinion moved toward more energetic national government and better trained armed forces.

So it was that Congress, by its Act of 16 March 1802, authorized a Corps of Engineers, set its strength at 5 officers and 10 cadets, and provided that it be stationed at West Point in the State of New York and constitute a Military Academy.

The garrison site of West Point, consisting of 1,795 acres purchased from Stephen Moore in 1790, had been occupied by the Army since 1778. Hence barracks and other buildings, while inadequate, were available for housing and instruction, and Maj. Jonathan Williams, grandnephew of Benjamin Franklin and Chief of the Corps of Engineers, who had been appointed as the first Superintendent, was able to open the Academy on 4 July 1802 with 10 cadets present.

The initial purpose of the Academy was to train military technicians for all branches of the military service, to encourage the study of military art nationally and thus raise the level of training of the militia, and to encourage the practical study of every science. This last, it should be noted, at a time that many other American

academic institutions looked at the sciences with suspicion and hostility. How well the Academy succeeded in its purpose for the first 10 years of its existence was summarized by the most authoritative historian of that period of American life, Henry Adams. In his History of the United States (9 vols., 1889–91), covering the Jefferson and Madison administrations, Adams offers the tribute that American scientific engineering ". . . owed its efficiency and almost its existence to the military school at West Point established in 1802."

In the year 1812 the growing threat of war with England impelled Congress to pass the act of 29 April 1812 by which the strength of the Corps of Cadets was increased to 250, the academic staff enlarged, and the cadets placed under the discipline of published regulations. A chaplain was authorized who in addition to his religious duties was "to officiate as Professor of Geography, Ethics, and History." The act required also that the cadets be taught "all the duties of a private, a noncommissioned officer, and an officer." This requirement, says Emory Upton in The Military Policy of the United States (1904), was the "key to the character for efficiency and discipline which the graduates have since maintained."

The record of the War of 1812 shows that the Academy graduates served their country well. A quarter of the more than 100—all under 30 years of age—who saw action were killed or wounded; and not one of the fortifications constructed under their direction was captured. Henry Adams was appreciative of their technical skill. "During the critical campaign of 1812," he wrote, "the West Point Engineers doubled the capacity of the little American army for resistance."

The experience of the War of 1812, that gave the Nation new self-assurance, affected the Academy's educational aims in the period of peace which followed. No longer was the enemy an immediate threat on our borders; American nationality had been firmly established. National interest called now for canals, roads, railroads, and the exploitation of the soil and its mineral wealth. The accurate mapping of rivers, the deepening of their channels, the constructing of lighthouses and beacon lights: these were needed to make communication easier. And the preliminary work of prospecting and surveying had to be done.

That the Academy graduates of this era were men who through force of character and training could assume leadership in the per-

formance of these tasks was due largely to the genius of Col. Sylvanus Thayer, Superintendent from 1817 to 1833. The "Father of the Military Academy" had one ideal before him: to produce men who would be trained and worthy leaders. He demanded of the cadets excellence of character and excellence of knowledge, the two integrating qualities of such leadership. But he knew that to achieve his ideal he must master and guide the day-to-day routine of the Academy, and so it was that he let no detail of character training or discipline, of curriculum content, of textbooks, of teaching methods, of extracurricular activities, of physical plant escape his attention.

Thayer grasped at once the need of the country for engineers, and therefore made courses in civil engineering the core of the curriculum. Under his direction, instruction in that subject eventually included the properties, preparations, and use of materials for construction; the art of construction generally, including decorative architecture; the manner of laying and constructing roads; the construction of bridges; the principles regulating the removal of obstructions impeding river navigation; the survey, location, and construction of canals and railroads; and the formation of artificial and the improvement of natural harbors.

A list of the Academy's achievements in the field of civil engineering that can be attributed to the farseeing genius of Thayer would include trigonometrical and topographical surveying; methods of triangulation; magnetic declination; and the systems used in locating, surveying, and dividing the public lands of the United States. Francis Wayland, the president of Brown University from 1827 to 1855, said in 1850 in a report to the Corporation of Brown University that West Point graduates did "more to build up the system of internal improvement in the United States than [the graduates of] all other colleges combined."

To provide objective criticism of his work, Thayer had the aid of a Board of Visitors. A regulation for the Government of the Military Academy, approved by Secretary of War William H. Crawford on 1 July 1815, provided for the appointment of such a Board to consist of five "competent gentlemen," with the Superintendent as President, who should attend at each of the annual and semiannual examinations and report thereon to the Secretary. This excellent custom of having a Board of Visitors has lasted to the present day. From the beginning their criticism was pertinent and helpful; nor is this surprising when the long list of those who have been members is scanned, for thereon the names of men like Edward

Everett, George Bancroft, George Ticknor, Horace Mann, and Daniel Coit Gilman appear. Thayer knew the value of the intelligent lay point of view and welcomed the Board's comments on his curricular shift to civil engineering, his innovations in educational method, and his system in general.

His innovations in educational methods insured that the cadets not only learned but retained their subjects. Basically, he demanded that the cadets develop habits of mental discipline and maintain standards of scholarship that have grown in importance the more they have been tested through the years. He emphasized habits of regular study, he laid down the rule that every cadet had to pass every course—any deficiency had to be made up within a specified time or the cadet would be dropped. To carry out these rigorous standards he limited the classroom sections to from 10 to 14 members; he rated these sections in order of merit and directed that cadets be transferred from one to the other as their averages rose or fell.

These methods and standards of Thayer's system are still used at the Academy, and Thayer's insistence on leadership integrated by excellence of character and excellence of knowledge has been the cornerstone of the Academy's training since his day. Emerson, visiting West Point in 1863, spoke of the "air of probity, of veracity, and of loyalty" the cadets had; and when in 1898 the present coat of arms was adopted, the motto thereon of "Duty, Honor, Country" was but a later generation's attempt to put Thayer's ideal into words.

To the casual student it might seem that until about 1860 West Point was filling the almost dual roles of national military academy and of national school of civil engineering. But despite the curricular emphasis on civil engineering and the renown of her graduates in that field, the Academy never forgot her deepest and most abiding obligation to the Nation: to send forth graduates trained in the art and science of war. That the obligation was fulfilled is attested for these early years by the records of the Mexican and Civil Wars. The record of the Mexican War is told best in the words of Gen. Winfield Scott:

> I give it as my fixed opinion, that but for our graduated cadets, the war between the United States and Mexico might, and probably would, have lasted some four or five years, with, in its first half, more defeats than victories falling to our share; whereas, in less than two campaigns we conquered a great country and a peace, without the loss of a single battle or skirmish.

The record of the Civil War shows that the Confederacy used graduates whenever and wherever possible; the Union, in the beginning, used "political" generals. Defeat after defeat proved the need for professionally trained officers and, in the last year of the war, all senior commanders of the Union armies were Academy graduates. Grant, Lee, Sheridan, Jackson, to name but a few on both sides, were all from West Point.

After the Civil War, changing conditions necessitated a shift in the Academy's curriculum away from the emphasis on civil engineering. The first Morrill Land-Grant Act of 1862, granting Federal land to each state "for endowment, support, and maintenance of at least one college where . . . military tactics . . . [and] . . . such branches of learning as are related to agriculture and the mechanic arts [shall be taught]," enabled American education to be enormously expanded. New technical and engineering schools, supplementing those that had been founded in the second quarter of the nineteenth century, made it possible for West Point to drop its strong emphasis on engineering subjects. But even had these new schools not come into being, the Academy would have found it impossible to keep on producing both adequately trained Army officers and adequately trained engineers. The tremendous expansion of the body of scientific knowledge during these years—the last half of the nineteenth century—was enforcing specialization in all technical fields. And since the science of war likewise expanded greatly it became obvious that the Army officer would need specialization in his particular branch of service.

The Academy met these changed conditions by severing its direct relationship with the Corps of Engineers; from 1866 on it was no longer mandatory that the Superintendent be a member of that Corps. To take care of officer-specialization demand, several Army postgraduate schools were set up, and West Point gradually came to be looked on as only the initial step in the Army officer's education. As the Academy approached its centennial, the military objective of the curriculum came to be the giving of general instruction in the elements of each military branch.

After its centennial, in 1902, the Academy underwent a thoroughgoing structural renovation and became known as the New West Point. Coincident with this reconstruction, Gen. Albert L. Mills, the Superintendent, had the entire curriculum, military and academic, reassessed. As a result, military instruction was transformed from a series of mechanical drills to practical training in minor tactics

and field work. Complete correlation was developed between instruction and actual field conditions. One of Mills' special hobbies was English; he believed that the Army officer should be able to express himself clearly in speech and writing. To that end, he strengthened greatly the course in English. A gradual liberalization of the curriculum went on until the outbreak of World War I.

World War I tested and proved, as never before, the soundness of the Academy's curriculum and training. Although in order to meet the sudden and great demand for trained officers the course was shortened and a number of classes graduated early, the qualities and abilities of the graduates remained high.

After the close of the war the Academy's further development was placed in the hands of Gen. Douglas MacArthur, who became Superintendent on 12 June 1919. General MacArthur's primary concern was an adaptation of the curriculum in terms of the recent war. It was known, for instance, that the concept of total war, new in military history, required cadets to have a knowledge of national production, transportation, and social problems; that something of the new developments in weapons and tactics had to be incorporated into cadet instruction; and that shortcomings in the officers' physical development, seen clearly in the stress of battle, made a longer and more vigorous physical training program necessary. But at the same time it was realized that the tremendous advances in the art and science of war, made under the pressure of actual conflict, presaged further development of Army postgraduate schools, and hence a growing emphasis upon a more broadly conceived basic curriculum at West Point. The belief was reached that the Academy would serve best by giving the cadets a combination of general and technical education, in this way providing a solid foundation for a professional military career.

The part of the curriculum General MacArthur changed with the greatest vigor was that relating to physical education. He believed firmly that physical fitness was a basic requirement of an officer; and he planned a strenuous program of compulsory gymnastic instruction complemented by an intramural program of 14 sports in which every cadet had to take part. The wisdom of his foresight has been reflected ever since in the excellent physical condition of all cadets at all times.

Soon after General MacArthur's incumbency the policy of a liberal as well as a technical education got renewed emphasis by the introduction of a course in economics and government under the Professor

of English and History. In 1926 the Department of English and History was reorganized into the Department of Economics, Government, and History; and a separate Department of English established. In succeeding years curricular reforms took place in modern languages, natural philosophy, and mathematics.

All phases of training were greatly intensified during the rearmament years, 1939–41; and the part played by its graduates in World War II seemed to justify the teaching and the courses at the Academy. Eisenhower, MacArthur, Bradley, Patton, Spaatz, Arnold, Collins, Clark, McNair, Devers, Wainwright, McNarney, Stilwell, Eichelberger, Vandenberg, Simpson: the list of West Point graduates who led our armies is a long and honored one.

But much was learned from World War II and Korea. A series of studies and reviews by distinguished educators and military leaders led to revised concepts of what professional military education should mean. A comprehensive analysis conducted from 1956 to 1960 of the entire curriculum and training program resulted in increased emphasis on modern technological advances and the increasingly complex aspects of national security and international relations. Related courses have been coordinated to bring their direction and emphasis into common focus. Because of the increased technological character of the weapons and techniques of war, the coverage of chemistry, nuclear physics, electronics, and basic astronautics has been increased. Similarly, because of the more frequent assignment of officers on foreign service, the coverage of geography, history, government, economics, and ideologies of countries other than the Western World has been increased. In order to challenge each cadet and to enable him to proceed as rapidly as his capabilities permit, the number and scope of advanced courses were expanded, and in order to capitalize on the aptitudes and interests of individual cadets, an elective program was introduced.

The academic and military training program is a vital, everchanging one that is continuously examined and adjusted to the changing times, and yet the Academy builds always on the cornerstone of the Thayer system: leadership integrated by excellence of character and excellence of knowledge.

ADMINISTRATION

The United States Military Academy is under the general direction and supervision of the Department of the Army. The Secretary of the Army has designated the Chief of Staff of the Army as the officer in direct charge of all matters pertaining to West Point.

The immediate government and military command of the Academy and the military post at West Point are vested in the Superintendent. Subordinate to the Superintendent is the Dean of the Academic Board who acts as representative of the academic departments and as advisor on academic matters to the Superintendent. The administration and training of the Corps of Cadets are in charge of the Commandant of Cadets, who is also head of the Department of Tactics.

SUPERINTENDENT:
Maj. Gen. James B. Lampert, USA

CHIEF OF STAFF:
Col. Thomas C. Chamberlain, GS

AIDE-DE-CAMP:
Capt. John A. Poteat, Jr., CE

DEAN OF ACADEMIC BOARD:
Brig. Gen. William W. Bessell, Jr., USA

PRINCIPAL ASSISTANT TO THE DEAN:
Col. Jess P. Unger, CE

COMMANDANT OF CADETS:
Brig. Gen. Michael S. Davison, USA

DEPUTY COMMANDMANT:
Col. Kenneth W. Collins, Inf

INFORMATION OFFICER:
Lt. Col. Everett O. Post, Arty

DIRECTOR OF ADMISSIONS AND REGISTRAR:
Lt. Col. Robert S. Day, USA

ADMISSIONS OFFICERS:
Maj. George A. Garman, Jr., Arty
Maj. John M. Tatum, Jr., Inf
Maj. Francis W. Craig, Inf
Maj. Lewis A. Williams, CE
Capt. William McK. Hadly, Inf
Capt. Lewis H. Ham, Jr., Armor
Capt. John G. Pappageorge, Inf

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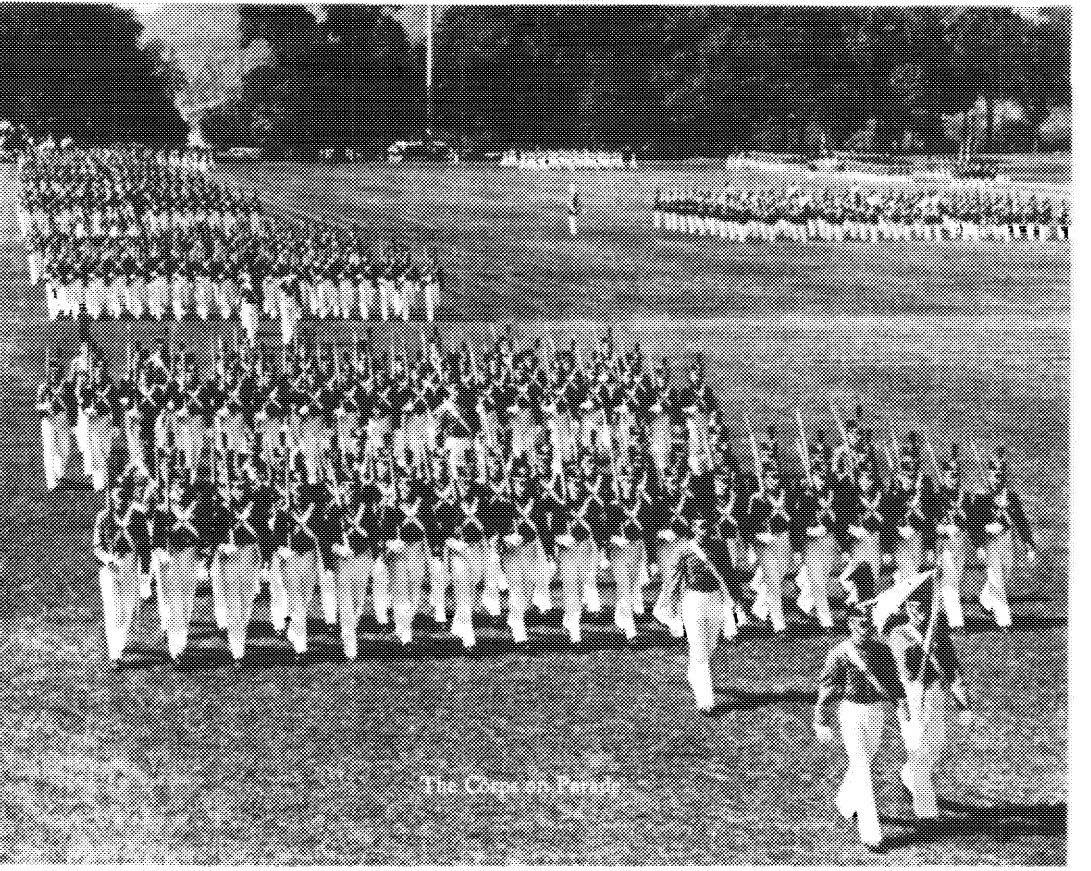


The Corps on Parade

THE UNITED STATES CORPS OF CADETS

The student body at West Point is called the United States Corps of Cadets. A member of the Corps is expected to display at all times the attributes of leadership, character, and integrity that are requisite in the fulfillment of the requirements of the military service.

The approximately 2,500 cadets of the Corps, organized into 24 companies of about 100 men each, follow a Brigade organization with two regiments. Each regiment is organized into three battalions with four companies in each battalion.

In command of the Brigade is the Cadet Brigade Commander (Cadet First Captain) who has a staff of an Executive Officer to the Brigade Commander, a Brigade Adjutant, a Brigade Operations Officer, a Brigade Supply Officer, and a Brigade Activities Officer. The two Cadet Regimental Commanders and the six Battalion Commanders have similar staffs.

A Cadet Company Commander is in charge of each company, with subordinate cadet officers and non-commissioned officers in command of the smaller units.

APTITUDE FOR THE SERVICE

The Aptitude for the Service System functions in accord with the basic responsibility of the Academy to produce officer leaders for the Armed Forces. The system assists in the maximum development of the leadership capabilities of each cadet and insures that graduates meet the standards required by the Army. The procedures of the system provide for evaluation of the leadership potential of each cadet, counseling and guidance in those areas in which any weakness is detected, and separation of any cadet who proves incapable of achieving the required standard of leadership.

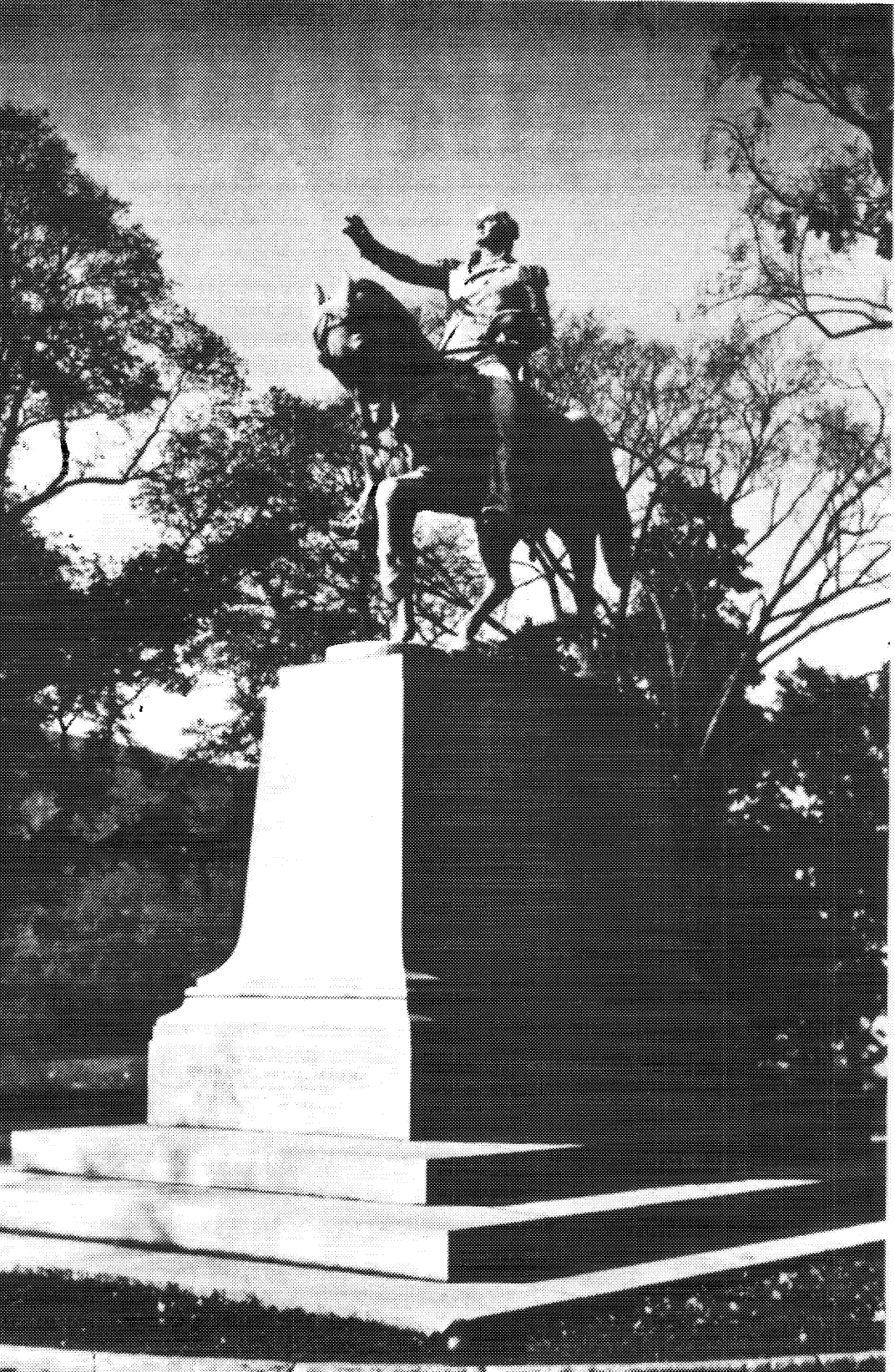
The evaluation of cadet leadership is accomplished primarily through a program of ratings by officers and cadets. Twice a year each cadet rates all cadets of his company who are in his class or lower classes. The ratings are made by arranging the cadets in each class within the company in order of merit based on observed leadership ability.

In addition to the rating by other cadets, each cadet is similarly rated by his Company Tactical Officer. The rating by the Tactical Officer is an extremely important one since this officer has been selected for his job because of proven leadership ability. It is he who has studied carefully the cadets in the company and has counseled and advised each cadet.

A relative standing in Aptitude for the Service for each cadet is established by mathematically combining the ratings of the Tactical Officer and cadets. The cadet standings are not published, but the cadet and his parents are informed of his general ranking within the class. The objective ratings are supplemented in certain instances by descriptive comments regarding performance of specific duties and overall potential.

The Tactical Officer plays a key role in the counseling and guidance phase of the system. With each cadet he conducts a series of interviews in which he discusses any weakness shown, along with its probable cause, and counsels him in the means of improvement.

If over an extended period of time the cadet appears incapable of overcoming his deficiency and attaining the leadership standards required, his records are carefully studied by a board of senior officers



of the Department of Tactics. The board interviews the cadet and such other cadets and officers as necessary for a thorough evaluation of the case. The board may recommend that a cadet be declared proficient or deficient. The Commandant reviews the proceedings of the Aptitude Board and refers those cases involving deficiency to the Superintendent for action by the Academic Board wherein they are handled in the same manner as deficiency in an academic subject. A cadet found deficient in Aptitude for the Service by the Academic Board may be placed in a conditioned status until the next rating or he may be separated. All cases involving separation are referred to the Department of the Army for final approval.

Deficiency in Aptitude for the Service does not mean that a young man is unsuited for a successful career in life. It does mean that in the considered opinion of his officer supervisors and his fellow cadets he is not suited for a career as an officer of the Army.

THE HONOR CODE

The development of character and integrity in the members of the Corps of Cadets is a basic objective of the Academy. The Cadet Honor Code and System are officially recognized as primary means through which this objective is attained.

From the earliest days of recorded history it has been universally recognized that unquestioned integrity is an essential trait of the military leader. Colonel Sylvanus Thayer, the father of the Military Academy, determined that the Academy should produce leaders whose foundation was built on honor, integrated with a strong sense of discipline and excellence of knowledge. Since his day the role of honor has been maintained by the Corps and fostered by the authorities of the Academy. General Douglas MacArthur, shortly after World War I, was instrumental in formalizing the Honor Code and System and making them officially sanctioned means of building character. Today, the Honor Code is a most cherished possession of the Corps of Cadets and of the "Long Gray Line" of graduates.

The Honor Code has never outgrown its original and simple meaning—that a cadet will not lie, cheat, or steal. The Code requires complete integrity in both word and deed of all members of the Corps and permits no deviation from those standards. Not only is the cadet expected to tell the truth on all occasions, but also to avoid quibbling or evasive statements. In the classroom a cadet does his own work. Under no circumstances will he take unfair advantage of his classmates. The maintenance of these high honor standards is the responsibility of each cadet, and each cadet is expected to report himself or any other cadet for violations of the Honor Code. These exacting standards are rigidly enforced, and any intentional violation by a cadet is cause for separation from the Military Academy.

The Honor System is an integral part of the Honor Code and is the method by which the Honor Code is applied in the highly organized life of a cadet. As an example, cadets may account for their absence from their rooms simply by marking their absence cards. This marking is accepted as the cadet's word that his absence is authorized, and that he will take no undue advantage of this privilege. Cadets are also often required to indicate by signature that they have complied with official instructions. These devices are

part of the Honor System and require the cadet to make decisions based on his sense of honor many times a day during his four years at the Academy. This constant stress on honor soon trains the cadet to live by the most rigid standards.

For its success the Honor Code depends upon the Corps. The Cadet Honor Committee, elected by the Corps, monitors the operation of the Honor Code. It explains to the Corps the principles upon which the Code is based, and guards against both violations of and the appearance of practices inconsistent with that Code. Thus, this Committee insures that the high standards of the Code are maintained and transmitted, undiluted, from class to class. Its procedures follow a set pattern, and its members have responsible authority. The Committee has no punitive powers, its functions being entirely investigative and advisory. If the Committee reports a cadet to the Commandant for an honor violation, the Commandant takes appropriate official action to insure that the rights of the cadet are protected in accordance with the provisions of the Uniform Code of Military Justice.

One of the Honor Committee's most important tasks is to supervise the indoctrination of the New Cadets in the principles of the Code. This indoctrination is both intensive and continuous and includes informal discussions, as well as scheduled lectures. Though New Cadets do not take an active part in the Honor System until they have received considerable instruction on honor, they are expected to adhere to the same standards as other cadets under the Honor Code. It is soon apparent to New Cadets that all members of the Corps share an inherent pride in upholding the exalted position of the Code. This observation, coupled with the indoctrination program, raises the varying standards of honor of an entering class to the uniformly high plane which the Corps has established, and expects from its members.

The devotion of the Corps to the Honor Code is especially strong. In the opinion of both cadets and graduates, it is a particularly vital part of their education, training, and character building at the Academy and makes a lasting impression on them.

EDUCATION AND TRAINING

GENERAL

An officer in the United States Army must be a man of high character, a trained leader, a clear thinker, and a versatile scholar. He must be a man of sound physical fitness. He must possess a breadth of knowledge both academic and military which enables him to perform effectively in a wide range of specialized fields. Because he must be able to communicate intelligently and sympathetically with men in a variety of other professions and occupations, his education must encompass both the sciences and the humanities. He must possess a depth of knowledge that will qualify him to pursue graduate studies in any area which the needs of the military service may dictate. The curriculum of the Military Academy is designed to produce such an officer. The entrance requirements of the Academy are such as to permit the entrance of only those students who can successfully accomplish the rigors of such a curriculum.

Bachelor of Science Program

The Military Academy is accredited by the Middle States Association of Colleges and Secondary Schools. Its academic program provides the student with a broad foundation in the humanities, the social sciences, the natural and engineering sciences, and the military sciences. Graduates of the Academy are accepted for advanced study by the leading graduate schools of the country.

Standard Academic Program

The Standard Academic Program consists of the prescribed courses which fulfill the minimum requirements for graduation. Each cadet must satisfactorily complete each of these courses, unless, on the basis of previously completed college level work or demonstrated ability, he is qualified for enrollment in the Advanced Studies Program.

Advanced Studies Program

The Advanced Studies Program is the academic program or, more precisely, programs, pursued by cadets who validate standard courses or who are capable of taking courses of a more advanced nature. It is designed to recognize and to give credit for previous

academic achievement and to permit the cadet to penetrate more deeply into one subject area or to pursue a broader field of study than is required by the Standard Academic Program.

Validation

A cadet who has satisfactorily completed appropriate college-level work prior to entering the Academy, or who has acquired sufficient knowledge of the subject matter through self-study, may validate standard courses. Normally he must successfully complete validating examinations administered at the Academy by the Departments concerned. For each course validated, a cadet must take the next sequential standard course or an elective course of approximately the same number of semester credit hours. A cadet who has appreciable prior knowledge of the subject matter, although not sufficient for validation, or who demonstrates unusual ability, may be enrolled in an advanced course. Advanced courses normally cover the subject matter of the corresponding standard course but include subject matter which is significantly broader or deeper in scope.

Elective Courses

Elective courses are those courses a cadet selects at designated stages in the curriculum. At present, each cadet taking the Standard Academic Program will select two electives during his final year at the Academy. Cadets who validate standard courses will, at some time between validation and graduation, take additional elective courses equivalent in terms of credit hours to the validated courses. Cadets are encouraged to make their selections in the interest of deepening their area of concentration or in the interest of broadening their backgrounds. Elective courses offered are:

Advanced Calculus I and II
Advanced Electronics
Advanced Structural Analysis
Automotive Engineering
British Literature I and II
Comparative Economic Systems
Contemporary Literature
Design of Concrete Structures
Differential Equations, II
Digital Computers
Early Modern Warfare (1500–1815)
Engineering Materials
French
Gas Dynamics
German
History of Russia
History of U.S. Foreign Relations
Human Relations
Individual Engineering Project
Individual Ordnance Project
Information Transmission
International Law
Introduction to Theoretical Physics I and II
Latin American Studies
Linear Algebra and Linear Programming
Management Engineering
Middle Eastern Studies
National Security Problems
Nineteenth Century Warfare (1815–1914)

Nuclear Reactor Theory
Numerical Analysis with Electronic Digital Computation
Physical Chemistry I and II
Political Philosophy
Portuguese
Problem of the Developing Nations
Russian
Shakespeare
Sociology
Soil Mechanics
Space Mechanics
Spanish
The Novel
Twentieth Century Warfare (1914–Present)

Honors Courses

For a select few cadets Honors Courses are offered in the First Class year.

Listing of Courses

Standard, advanced, and elective courses are shown by departments. Courses for the Fourth Class are numbered in the 100's; courses for the Third Class in the 200's; courses for the Second Class in the 300's; and courses for the First Class in the 400's. Advanced and elective courses are indicated by the second digit, 5 and 8, respectively. For standard and advanced courses the third digit indicates the term in which the course is offered; odd digit for first term, even digit for second term. Elective courses may be offered in either or both terms as indicated in the course description. Credit hours are computed generally on the basis of actual number of hours of classroom instruction per week.

Methods of Instruction

Cadets attend classes in small sections of from 12 to 15 students so that emphasis may be placed on daily student participation. Cadets are normally assigned to sections on the basis of their demonstrated ability in each subject. The resulting homogeneous grouping enables the instructor to pace his teaching to the capability of the student. Thus the cadet is intellectually challenged and the maximum of learning can take place at all levels. Cadets are resectioned periodically. Weekly posting of grades contributes much to the development of a competitive spirit in academics among cadets. Periodic reports of each cadet's academic progress are provided to parents.

STANDARD AND ADVANCED STUDY PROGRAMS

	Courses in the Standard Academic Program	*Courses in the Advanced Studies Program*
4th Class (Freshman)	Engineering Fundamentals	Advanced Graphics
	Mathematics	Advanced Mathematics
	English Composition	Evolution of American Ideals
	Foreign Languages	Advanced Foreign Languages
	Environment	
3d Class (Sophomore)	Mathematics	Advanced Mathematics
	Chemistry	Organic Chemistry
		Advanced Inorganic Chemisrry
	Foreign Languages	Advanced Foreign Languages
	Physics	
	Psychology	
	Comparative Literature	
	History of Modern Europe	Middle Eastern Studies
	History of the U.S. and 20th Century Europe	History of Russia
		Latin American Studies
		History of U.S. Foreign Relations
2d Class (Junior)	Electrical Science	Advanced Electrical Science
	Thermodynamics	Advanced Thermodynamics
		Classical Thermodynamics
	Mechanics of Fluids	Advanced Fluid Mechanics
	Mechanics of Solids	Advanced Engineering Mechanics
		Vector Mechanics
	U.S. Government	Political Philosophy
	Economics	Comparative Economic Systems
	Law	
	Atomic and Nuclear Physics	
1st Class (Senior)	Literature and Advanced Exposition	
	History of Military Art	
	Military Leadership	
	Contemporary Foreign Governments	
	History of Modern Asia	
	International Relations	
	Civil Engineering	Honors Course / Nuclear Engineering
	Ordnance Engineering	
	Electives (2)	Additional Electives

STANDARD ACADEMIC PROGRAM 1963–1964

FOURTH CLASS (FRESHMAN) YEAR

Subject	*Frequency of Attendance*	*Number of Attendances*	*Length of Period in Minutes*	*Contact Hours*	*Semester Credit Hours*
Mathematics	Every day Mon-Sat	212	75	265	15
Engineering Fundamentals.	Every other day Mon–Fri	90	120	180	6
Environment	Every other day Mon–Fri	90	60	90	6
English	Every other day Mon–Fri	90	55	82	5
Foreign Languages	Every other day Mon–Fri	90	60	90	5
Physical Education	As Scheduled	145	45–90	140	3
Tactics	Twice each week	65	60	65	2.5

THIRD CLASS (SOPHOMORE) YEAR

Mathematics	Every other day Mon–Sat	106	80	141	8
Physics	Every other day Mon–Sat	106	80	141	8
Chemistry	Every other day Mon–Sat	106	80	141	8
Foreign Languages	Every other day Mon–Sat	106	80	141	8
History	Every other day Mon–Fri	90	60	90	5
English	Every other day Mon–Fri	[1] 45	60	45	2.5
Psychology	Every other day Mon-Fri	[2] 45	60	45	2.5
Tactics	Twice each week	45	60	45	1.5
Physical Education	As Scheduled	68	60–90	89	1.5

SECOND CLASS (JUNIOR) YEAR

Mechanics of Fluids	Every other day Mon–Sat	106	80	141	8
Mechanics of Solids	Every other day Mon–Sat	106	80	141	8
Electrical Science	Every day Mon-Sat	212	80	283	16
Economics	Every other day Mon-Fri	90	60	90	5
Law	Every other day Mon–Fri	90	60	90	5
Tactics	Twice each week	66	60	66	2.5
Physical Education	As Scheduled	47	60–90	68	1.5

[1] First term.
[2] Second term.

FIRST CLASS (SENIOR) YEAR

Subject	*Frequency of Attendance*	*Number of Attendances*	*Length of Period in Minutes*	*Contact Hours*	*Semester Credit Hours*
Civil Engineering	Every other day Mon–Sat	106	80	141	8
History of Military Art	Every other day Mon–Sat	106	80	141	8
History, Government and International Relations.	Every other day Mon–Sat	106	80	141	8
Ordnance Engineering	Every other day Mon–Sat	106	80	141	8
Elective	Every other day Mon–Fri	90	60	90	5
English	Every other day Mon–Fri	[2] 45	60	45	2.5
Leadership	Every other day Mon–Fri	[1] 45	60	45	2.5
Tactics	Twice each week	66	60	66	1.5
Physical Education	As Scheduled	47	60–90	68	1

[1] First Term.
[2] Second Term.

TYPICAL DAILY SCHEDULE

MORNING:

6:05	First call for reveille
6:45– 7:15	Breakfast hour
7:15– 7:45	Study time
7:45– 9:05	Class
9:05–10:30	Study time
10:30–11:50	Class
12:10– 1:00	Dinner hour

AFTERNOON:

1:05– 2:05	Class
2:05– 2:15	Unscheduled time
2:15– 3:15	Class
3:15– 3:35	Unscheduled time
3:35– 4:50	Intramural and intercollegiate athletics
4:50– 6:30	Study time, parades, intercollegiate athletics, and extracurricular activity meetings
6:30– 7:15	Supper hour
7:20– 9:30	Study time and extracurricular meetings
10:00	Taps
11:00	Lights out

The schedule shown above is the normal daily schedule for a cadet during the academic year, September through May. During the summer months of June through August the cadet takes a leave of approximately one month and devotes the remainder of the time to instruction in Tactics.

THE ACADEMIC BOARD

The Academic Board consists of the Superintendent, the Dean of the Academic Board, the Commandant of Cadets, and the Heads of the Academic Departments. The Director of Admissions and Registrar is the Secretary of the Board. Its responsibilities include the determination of standards and procedures for the admission, readmission, advancement from class to class, and the graduation and commissioning of cadets; and the establishment of the curriculum.

SUPERINTENDENT, AND PRESIDENT OF THE BOARD:
Maj. Gen. James B. Lampert, USA; B.S., M.S.

DEAN OF THE BOARD:
Brig. Gen. William W. Bessell, Jr., USA; B.S., C.E., D. Eng. Hon.

COMMANDANT OF CADETS, AND HEAD OF THE DEPARTMENT OF TACTICS:
Brig. Gen. Michael S. Davison, USA; B.S., M.P.A.

PROFESSOR AND HEAD OF THE DEPARTMENT OF

EARTH, SPACE, AND GRAPHIC SCIENCES:
Col. Charles R. Broshous, USA; B.S., M.S.

ELECTRICITY:
Col. Elliott C. Cutler, Jr., USA; B.S., M.S., Ph.D.

ENGLISH:
Col. Russell K. Alspach, USA; B.A., M.A., Ph.D.

FOREIGN LANGUAGES:
Col. Charles J. Barrett, USA; B.S.

LAW:
Col. Frederick C. Lough, USA; B.S., LL.B.

MATHEMATICS:
Col. Charles P. Nicholas, USA; B.S.

MECHANICS:
Col. Elvin R. Heiberg, USA; B.S., C.E.

MILITARY ART AND ENGINEERING:
Col. Vincent J. Esposito, USA; B.S., M.E.

MILITARY HYGIENE:
Col. Charles H. Gingles, MC; M.D.

ORDNANCE:
Col. John D. Billingsley, USA; B.S., M.E., M.B.A.

PHYSICS AND CHEMISTRY:
Col. Edward C. Gillette, Jr., USA; B.S., M.S.

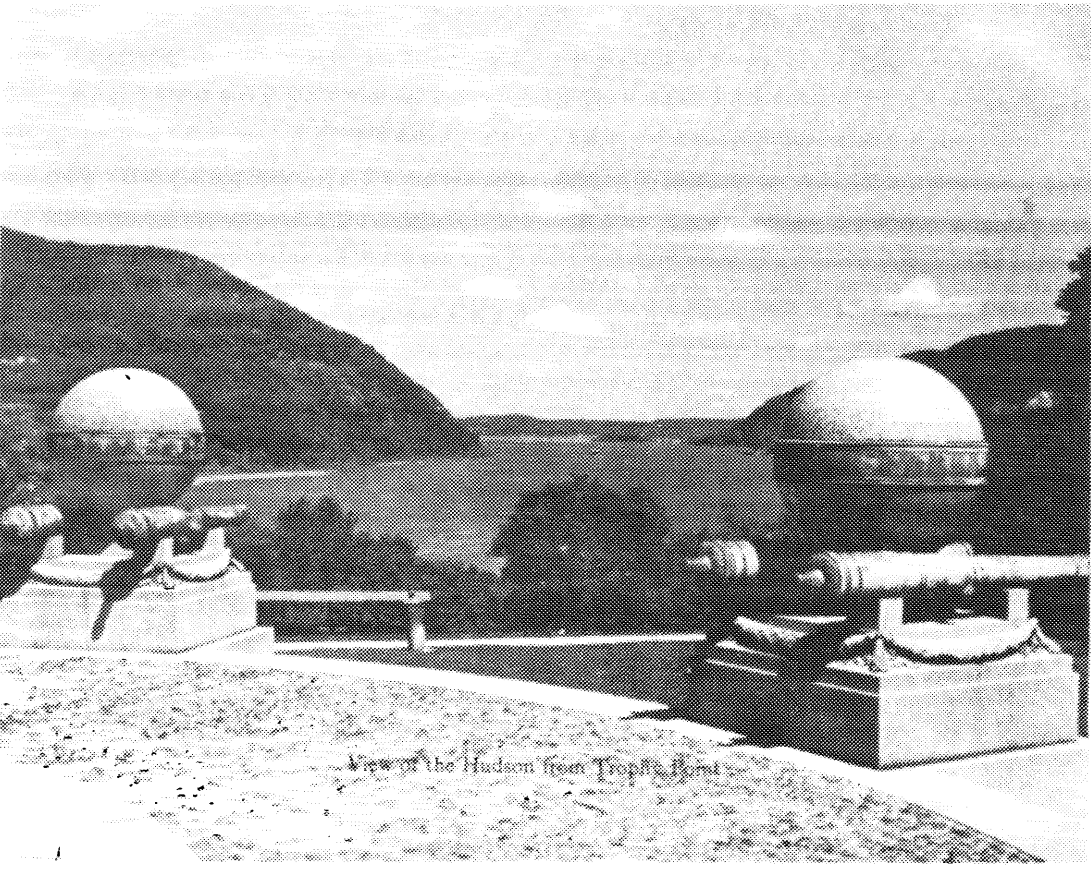
SOCIAL SCIENCES:
Col. George A. Lincoln, USA; B.S., B.A., M.A. (Oxon.)

DIRECTOR OF ADMISSIONS AND REGISTRAR, SECRETARY TO THE BOARD:
Lt. Col. Robert S. Day, USA; B.S., M.S.

CONSULTANTS TO THE ACADEMIC BOARD:

James P. Baxter, III, Ph.D., Litt.D., LL.D., President Emeritus, Williams College.

Carl Richard Soderberg, Tekn.D., D.Eng., Institute Professor Emeritus; Professor of Mechanical Engineering, Emeritus; Dean of Engineering, Emeritus, Massachusetts Institute of Technology.



THE EDUCATIONAL PHILOSOPHY OF THE UNITED STATES MILITARY ACADEMY

The United States Military Academy prepares selected young men for service to their country as professional officers of the United States Army. Since it is the only institution of higher learning with this specific mission, its philosophy of education is unique. The Military Academy must produce enlightened military leaders of strong moral fiber whose minds are creative, critical, and resourceful. The academic curriculum and military training encourage logical analysis, clear and concise expression of considered views, and independent thought and action along with a readiness, developed within the framework of military discipline, to carry out orders without reservation once a decision has been reached.

The total curriculum is designed to develop those qualities of character, intellect, and physical competence needed by the officer who is prepared to lead the smallest combat unit or to advise the highest governmental council. The program includes the sciences, the humanities, and military and physical training. It forms a basis both for graduate education and for further professional development.

In the academic curriculum, standard courses provide the essential core of knowledge of mathematics, science, engineering, the social sciences, and the humanities and an understanding of the application of this knowledge to the solution of problems. Advanced and elective courses afford the opportunity to develop intellectual capacities and to concentrate in areas of particular interest.

Military training provides the requisite knowledge of professional fundamentals and doctrine and of the basic military skills. Service in positions of responsibility in the Corps of Cadets and participation in intensive summer training provide the opportunity to apply and test principles and to learn techniques by practice and observation.

Fitness for military leadership requires physical strength, agility, stamina, and a competitive spirit. These are acquired from a comprehensive course in physical education and from participation in intramural and intercollegiate sports.

The increasing complexity of the world scene requires constant adaptation by the military profession and by the institutions which prepare its leaders. But while adapting itself to the changing world, the Academy must continue to emphasize the devotion to Duty, Honor, and Country which has traditionally been the hallmark of its graduates.

DEPARTMENTS OF INSTRUCTION

DEPARTMENT OF EARTH, SPACE, AND GRAPHIC SCIENCES

Professors: Col. C. R. Broshous (Head of Department), Col. W. W. Watkin, Jr.
Associate Professors: Lt. Cols. R. H. Hammond, W. C. Smith; Maj. N. J. Salisbury.
Assistant Professors: Lt. Col. R. E. Clark; Majs. J. R. Brinkerhoff, L. E. Rising, W. B. Rogers, M. J. Slominski; Capts. H. L. Davisson, Jr., R. J. Kimmel, R. W. Leach, R. S. McGowan, J. A. Poteat, Jr., R. J. Renfro, J. D. Smythe.
Instructors: Capts. J. L. Abell, J. L. Ballantyne, A. C. Biggerstaff, R. B. Chapman, J. E. Drummond, A. L. Erickson, C. J. Fralen, W. M. Jewell, Jr., I. G. Kinnie, Jr., A. F. Lykke, Jr., J. G. McCormack, R. J. Miller, C. M. Minich, R. V. Perkins, F. B. Phillips, J. L. Schick, J. E. Scovel, N. F. Vinson.

Standard Courses

EF 101–102. Engineering Fundamentals

Earth Measurements. Fundamental operations and equipment for measuring horizontal and vertical angles and horizontal and vertical distances. Analysis of sources of error inherent in all measurements and consideration of the methods available for the adjustment of these errors.

Engineering Graphics. Modern graphical techniques, introduction to computers, applied geometry and pictorial representation (with emphasis on sketching). Orthographic projection and engineering conventions to include shape and size description. The spatial relations of points, lines, and planes. Graphical calculations, vector geometry, nomography and graphical calculus.

6 Credit Hours.

EV 101–102. Environment

Physical Geography. Descriptive study of a number of earth sciences which gives a general insight into the nature of man's environment and provides a sound physical basis for later work in world geography. Included are introductions to geomorphology, geology, hydrology, meteorology, climatology, pedology, and physical oceanography. Map studies are emphasized throughout.

World Geography. Study of the location and density of man and effects of differences of population density, habitat, way of living, and political organization. In addition to the general coverage, three regions of the world are studied in greater detail in order to determine their relative national power.

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Instruction in Space Science

Cadets Participate in Operation Crossroads Africa

Astronomy-Astronautics. Methods of orientation and position referencing; earth motions and environment; historical concepts of astronomy; general methods of astronomical investigation; stellar organization and motions; history of space flight; current astronautics programs and their implications with predictions for the future.
6 Credit Hours.

Advanced Course

EF 151–152. Advanced Engineering Fundamentals

Prerequisite: A grade of C or better for a college engineering drawing course of 3 or more credit hours. Offered in lieu of Engineering Fundamentals 101–102.

The first one-third of this course consists of *Earth Measurements* of EF 101–102. This is followed by *Advanced Engineering Graphics* (advanced descriptive geometry, intoduction to computers, vector geometry, graphical arithmetic and algebra, empirical equations, nomography, and graphical calculus).
6 Credit Hours.

DEPARTMENT OF ELECTRICITY

Professors: Col. E. C. Cutler, Jr. (Head of Department), Lt. Col. E. A. Saunders.
Associate Professors: Lt. Col. W. T. Lincoln, Maj. F. A. Wolak.
Assistant Professors: Majs. R. L. Alexander, F. J. Davis; Capts. R. D. Carpenter, R. M. Cline, Jr., R. F. Fischer, G. Lewis, L. R. Mentillo, E. E. Roderick.
Instructors: Lt. Col. W. W. Chandler; Capts. T. G. Adcock, G. L. Breeding, R. G. Caldwell, C. H. Cooper, P. H. Enslow, Jr., R. W. Gell, M. I. Kovel, R. L. LaFrenz, E. M. Mayson, D. F. Newnham, J. F. Passafiume, D. A. Ramsay, J. E. Rudzki, Jr., D. L. Smith, D. P. Whalen, L. S. Zimmer.

Standard Courses

EL 301. Direct and Alternating Current Circuits

Basic laws of dc circuits; superposition and Thevenin network theorems; instruments; electrostatics and capacitance, inductance, passive linear circuit parameters; transients in simple RLC circuits; fundamental ac relations, reactance, impedance, power factor, complex notation; resonance phenomena; polyphase ac power distribution systems with emphasis on balanced loads; measurements with dc and ac bridges.

Laboratory. Experimental verification of the fundamental laws of electric circuits. Practical training in the use of basic electrical measuring instruments. Measurements of transformer parameters.
4 Credit Hours.

EL 302. Power Circuits and Machinery

Magnetic circuits; transformers; fundamentals of dynamos; dc generators and motors; alternators; synchronous motors; induction motors; introduction to feedback control systems and components.

Laboratory. Measurement of transformer parameters. Practical exercises on the connection, starting, and operation of dc and ac motors and generators, and experimental determination of their load characteristics.

3 Credit Hours.

EL 304. Electronics and Communications

Attenuators and filters; vacuum tubes; semiconductor diodes and transistors; basic vacuum tube and transistor circuits; wave-shaping circuits; simple telephone systems; AM transmitters and receivers; modulation and detection; propagation of electromagnetic waves, antennas; basic concepts of TV transmission. Cadets taking the advanced courses in Electricity will take this course on an accelerated schedule.

Laboratory. Measurement of vacuum tube and semiconductor device characteristics; construction and demonstration of the operating characteristics of amplifiers, oscillators, tuned circuits, mixers, AM transmitters, AM receivers, transistor circuits, and wave-shaping circuits.

5 Credit Hours. (4 Credit Hours for the accelerated course.)

EL 305. Atomic and Nuclear Physics

Historical development of modern concepts; quantum structure of light and electricity; photo-electric effect and photocells; Bohr Theory of the atom, quantum numbers, Pauli's exclusion principle; solid-state electronics, X-rays, nuclear structure; natural and artificial radioactivity; nuclear fission and fusion reactions; chain reactions in reactors and weapons; radiation hazards and detection.

Laboratory. Familiarization with radiation detection and counting devices. Measurement of radioactive decay and absorption.

4 Credit Hours.

Advanced Courses

EL 351. Advanced Circuits

Prerequisite: Completion of Physics 201–202, with class standing in upper part of class.

Augmented course replacing ELECTRICITY 301 for cadets whose performance indicates ability to undertake more advanced material,

and who desire to pursue it. Covers material in ELECTRICITY 301 with more detailed and mathematical approach. In addition the following topics are presented: complex frequency variable; theory of two-terminal-pair networks; Fourier series and integral; Laplace transform; Introduction to Analog and Digital computers.

Laboratory. Experimental verification of the fundamental laws of electric circuits. Practical training in the use of basic electrical measuring instruments. Measurement of transformer parameters. Analog computer operation.

4 Credit Hours.

EL 352. Energy Conversion

Prerequisite: Completion of EL 351.

Augmented course replacing ELECTRICITY 302 for cadets in the Advanced Program. Basic electromechanical energy conversion equations are used to develop a general machine which may be made, by the application of proper constraints, to represent ac synchronous machines, ac induction motors, and dc machines. Course culminates in an introduction of servomechanisms.

Laboratory. Measurement of parameters and analysis of performance characteristics of a three-phase synchronous machine, a three-phase induction motor, and a dc machine.

2 Credit Hours.

EL 356. Electromagnetic Fields

Prerequisite: Completion of EL 351 or EL 301 with class standing in upper part of class.

Course is presented to cadets in the Advanced Program. Material covered includes electrostatic fields, magnetic fields, Maxwell's Hypothesis, fundamentals of electromagnetic waves, reflection, radiation, antennas, waveguides, waves in the ionosphere, and radar.

Laboratory. Observation and measurement of radiated microwaves and microwaves in waveguides. Familiarization with basic antenna patterns.

2 Credit Hours.

Department of Electricity,Nuclear Reactor

Classroom Recitation in English

Elective Courses

EL 481. ADVANCED ELECTRONICS (*Either term*)

Prerequisite: EL 304

Mesh and nodal analysis; four-terminal networks, active networks; Laplace transform; amplifiers, transient response of amplifiers, band pass and negative feedback amplifiers; oscillators; modulation; detection; wave shaping and multivibrators.

Laboratory. Mission-type laboratory exercises involving the construction of vacuum tube circuits and investigation of their characteristics with emphasis placed upon transient response and feedback applications.

2.5 Credit Hours.

EL 482. NUCLEAR REACTOR THEORY (*Either term*)

Prerequisite: EL 305

Review of nuclear physics pertaining to reactor theory; nuclear forces and binding energy; nuclear reactions; fission; chain reaction; neutron moderation, multiplication, and diffusion; critical equation; time dependency and temperature effects; health physics and radiation detection.

Laboratory. Practical exercises in the detection of nuclear radiation. Use of a subcritical reactor to measure criticality parameters and to provide a source of thermal neutrons.

2.5 Credit Hours.

EL 483. DIGITAL COMPUTERS (*Either term*)

Prerequisite: EL 304 or standing in upper half of class in 3d or 4th class mathematics and completion or validation of PH 202.

Capabilities and limitations of digital computers; organization and operation; electrical construction; system design, planning, and applications.

Laboratory. Investigation of the various electronic circuits utilized in a digital computer and assembly of a portion of a specimen computer. Practical exercises on an actual digital computer involving computer operating techniques and various programming methods.

2.5 Credit Hours.

EL 484. INFORMATION TRANSMISSION (*Second term*)

Prerequisite: EL 304.

The basic concepts of random time functions and their application to the analysis of communication systems. Frequency and time domains, several types of modulation, random signal theory including application of basic statistics and probability theory, network anal-

ysis, basic information theory, noise sources and noise figure, signal-to-noise ratio, and radar.

2.5 Credit Hours.

DEPARTMENT OF ENGLISH

Professors: Col. R. K. Alspach (Head of Department), Col. E. V. Sutherland.

Associate Professors: Lt. Col. W. C. Burton; Majs. J. L. Capps, J. E. Hurst, Jr.

Assistant Professors: Majs. J. L. Fant, III, P. R. Hilty, Jr., B. E. Petree, G. W. Tracy (Executive Officer), G. C. Wilhide, Jr.; Capts. A. E. S. Burkhard, G. W. Stout.

Instructors: Majs. L. T. Doyle, R. T. Fallon, C. B. Lind, J. W. Rasmussen, Jr., S. M. Smith, Jr.; Capts. A. A. Arduna, J. F. Bart, B. Buckley, Jr., J. H. Cooper, W. C. Cousland, J. R. Galvin, J. A. Hettinger, Jr., W. A. Holt, L. J. Matthews, C. J. Piolunek, J. H. Ryan, A. C. Sterling, Jr., R. R. Sullivan, R. D. Sylvester, N. Terzopoulos, J. H. Young, Jr.

Visiting Professors: Dr. Tristram P. Coffin, University of Pennsylvania (AY 1962–1963); Dr. Stephen Parrish, Cornell University (AY 1963–1964).

Standard Courses

EN 101–102. Composition, Reading, and Speech Making

Grammar, punctuation, and diction; the summary and paraphrase; the paragraph; analysis, logic, exposition, and research; diversified reading selections, including narrative poetry, the drama, the short story, and the essay; the presentation of various types of speeches.

5 Credit Hours (2.5 each term).

EN 201. Comparative Literature

Selections from the masterpieces of world literature. Among the writers studied are Homer, Plato, Dante, Shakespeare, Milton, Goethe, Yeats, Frost, and Eliot. The course emphasizes that literature treats generally of (1) man's relationship with God; (2) man's relationship with his fellow man; and (3) man's relationship with nature. The cadet develops his skill in speaking through classroom analysis of the assigned reading; he develops his skill in writing through the preparation of formal papers which include a criticism of a novel and a research paper.

2.5 Credit Hours.

EN 402. Literature and Advanced Exposition

Readings in exposition, drama, and the novel. Advanced expository theme writing. The objectives are (1) to develop further the student's ability to write and speak effectively, and (2) to improve his skill in logical analysis and criticism.

2.5 Credit Hours.

Advanced Courses

EN 151. THE EVOLUTION OF AMERICAN IDEALS AS REFLECTED IN AMERICAN LITERATURE, 1607–1860

Open to students qualified by the Department of English.

A study of the part played by American literature in the development of our national character. Among the writers studied are Bradford, Edwards, Franklin, Jefferson, Emerson, Thoreau, Hawthorne, and Poe.

2.5 Credit Hours.

EN 152. THE EVOLUTION OF AMERICAN IDEALS AS REFLECTED IN AMERICAN LITERATURE, 1860–THE PRESENT

Open to students qualified by the Department of English.

A continuation of EN 151. Among the writers studied are Whitman, Lincoln, Howells, James, Clemens, Crane, Sandburg, Benét, Hemingway, Steinbeck, and Faulkner.

2.5 Credit Hours.

Elective Courses

EN 481. THE NOVEL (*First term*)

Prerequisites: Credit for EN 101–102 or 151–152 and 202 or 252.

Selected novels of Cervantes, Clemens, Cozzens, Dreiser, Faulkner, Hardy, James, Thackeray, and Tolstoy.

2.5 Credit Hours.

EN 483. CONTEMPORARY LITERATURE (*First term*)

Prerequisites: Credit for EN 101–102 or 151–152 and 202 or 252.

A study of the work of the major American and British writers between 1900 and the present. Among the writers studied are John Masefield, W. B. Yeats, Robert Frost, T. S. Eliot, W. H. Auden, and James Joyce.

2.5 Credit Hours.

EN 485. BRITISH LITERATURE FROM THE BEGINNING TO 1660 (*First term*)

Prerequisites: Credit for EN 101–102 or 151–152, and 202.

A study of representative authors and trends.

2.5 Credit Hours.

EN 482. SHAKESPEARE (*Second term*)

Prerequisites: Credit for EN 101–102 or 151–152 and 202 or 252.

A study of selected plays and poems.

2.5 Credit Hours.

EN 486. BRITISH LITERATURE FROM 1660 TO THE PRESENT (*Second term*)

Prerequisites: Credit for EN 101–102 or 151–152, and 202.

A study of representative authors and trends.

2.5 Credit Hours.

DEPARTMENT OF FOREIGN LANGUAGES

Professors: COL. C. J. BARRETT (Head of Department), COL. W. J. RENFROE, JR.

Associate Professors: LT. COLS. E. H. GERMANN, S. WILLARD.

Assistant Professors: LT. COL. D. T. DUNNE; MAJS. F. A. HENNING, J. J. PORTERA; CAPTS. L. B. BONNER, H. E. CARTLAND, T. F. HEALY, R. X. LARKIN; DR. F. TILLER; MR. N. MALTZOFF.

Instructors: MAJS. T. A. AUSTIN, K. A. FRITH, R. E. LENZNER, J. C. MARTIN, J. E. O'BRIEN, R. ORLIKOFF, E. L. SMITH, W. C. THOMA, H. J. VETORT; CAPTS. F. G. AGATHER, M. J. ASENSIO, JR., C. D. BEAUMONT, T. M. BOWES, L. J. CORBRIDGE, JR., W. R. FREDERICK, H. W. HALTERMAN, JR., H. HEINSOO, J. R. HENRY, H. I. LOWDER, J. E. MOORE, JR., E. J. P. PAWLOWSKI, C. E. POOLE, JR., J. E. PORTER, R. RINKER, M. C. SCHEPPS, JR., R. L. WHEATON, JR.; 1ST LT. P. V. DI MAURO.

Civilian Instructors: MESSRS. F. C. H. GARCIA, J. MARTINEZ, C. VIOLLET.

Foreign Instructor: MAJ. M. MASSILON (BRAZILIAN ARMY).

NOTE: Each cadet studies one foreign language—French, German, Portuguese, Russian or Spanish—during the first two years of his course at West Point. The Department of the Army specifies the approximate percentage of the entering class to be assigned to each language. Within these quotas cadets are assigned in accordance with their preferences and previous language experience. In general, a cadet may continue at West Point the study of a language begun elsewhere, unless he has reached a stage of proficiency equal to the average to be attained at West Point. Special advanced courses in French, German, and Spanish are given for those cadets who wish to continue the study of those languages and who show themselves qualified therefor in oral and written examinations given prior to the start of academic work. The advanced courses are given in lieu of and during the same time as the other language courses. A cadet may also take one or two additional semesters of language study among the elective courses of the fourth year.

Standard Courses

LF 101–102 FRENCH
LG 101–102 GERMAN
LP 101–102 PORTUGUESE
LR 101–102 RUSSIAN
LS 101–102 SPANISH

Basic course in the fundamentals of the language. In keeping with the primary objectives of speaking and of understanding the spoken language, particular emphasis is placed on oral work. The audio-lingual skills are developed by reading aloud, repetition drills, question and answer exercises, prepared and extemporaneous dialogues, individual short talks, and by use of the language laboratory.

After the first month of the course all classroom work is in the foreign language. Accelerated divisions in the above courses are provided when the number of cadets qualified therefor warrants a more rapid pace.

5 Credit Hours (2.5 each term).

LF 201–202 FRENCH
LG 201–202 GERMAN
LP 201–202 PORTUGUESE
LR 201–202 RUSSIAN
LS 201–202 SPANISH

Continuation of the 101–102 courses, with increased stress on the correct application of grammar principles. Continuing emphasis on oral discussions, dialogues, and individual talks. Periodic written compositions. Reading and discussion of one or two literary works and of historical, geographical, and military material of current interest. Series of six or seven lectures on the culture of the people whose language is being studied. Frequent aural comprehension exercises. All work conducted in the foreign language.

8 Credit Hours (4 each term).

Advanced Courses

LF 151–152 FRENCH
LG 151–152 GERMAN
LS 151–152 SPANISH

Prerequisite: The passing of oral and written validating examinations at the beginning of Fourth Class year.

Grammar review with audio-lingual emphasis. Extensive use of pattern drills, question and answer exercises, dialogues, and individual talks. Reading and discussion of modern fiction. Periodic written compositions. All classroom work is in a foreign language.

5 Credit Hours (2.5 each term).

LF 251–252 FRENCH
LG 251–252 GERMAN
LS 251–252 SPANISH

Prerequisite: The 151–152 courses in the corresponding language.

Increased use of audio-lingual techniques, talks, debates, and interpreter exercises. Reading of a wider field of literature by French, German, Spanish, or South American writers. Greater emphasis upon the cultural and history of the countries concerned.

8 Credit Hours (4 each term).

Elective Courses

LF 481 FRENCH (*First term*)
LG 481 GERMAN (*First term*)
LP 481 PORTUGUESE (*First term*)
LR 481 RUSSIAN (*First term*)
LS 481 SPANISH (*First term*)

Prerequisite: The 201–202 courses in the corresponding language.

Readings in literary masterpieces by French, German, Brazilian, Russian, Spanish, and South American writers. Class discussions, oral and written compositions, all in the appropriate foreign language.

2.5 Credit Hours.

LF 482 FRENCH (*Second term*)
LG 482 GERMAN (*Second term*)
LP 482 PORTUGUESE (*Second term*)
LR 482 RUSSIAN (*Second term*)
LS 482 SPANISH (*Second term*)

Prerequisite: The 481 course in the corresponding language, plus demonstrated ability to use and understand the language in more complex situations.

Additional readings in literary works with greater concentration on modern works. Class discussions, comparative studies, oral and written presentations of conclusions, all in the appropriate foreign language.

2.5 Credit Hours.

Advanced Seminars

LF 485 FRENCH (*First term*)
LG 485 GERMAN (*First term*)
LS 485 SPANISH (*First term*)

Prerequisite: The 251–252 courses in the corresponding language.

Advanced readings in the standard literature of France, Germany, and Spain, with class discussions, themes, etc., in the appropriate foreign language.

2.5 Credit Hours.

DEPARTMENT OF LAW

Professor: COL. F. C. LOUGH (Head of Department).
Associate Professor: COL. R. H. IVEY.
Assistant Professors: LT. COLS. V. H. H. NEWMAN, T. J. NICHOLS, E. M. SCHMIDT; MAJS. B. N. HOLLANDER, R. D. PECKHAM.
Instructors: LT. COL. R. K. WEAVER; MAJ. G. D. HEISSER; CAPTS. D. J. DANILEK, W. M. OTTO, J. H. WILLIAMS.

Standard Courses

LW 301. ELEMENTARY AND CONSTITUTIONAL LAW

Elementary Law. A broad, basic coverage of the fundamental legal principles of contracts, agency, business organizations, sales, real and personal property, negotiable instruments, torts, domestic relations, taxation, and remedies. The course provides a panorama of the law and its philosophies, affording an introduction to the several law subjects and their interrelations.

Constitutional Law. Important phases of constitutional authority, guaranties and limitations. Emphasis is placed on the sources and extent of military authority, and the relation of the military establishment to the legislative and judicial branches of the Federal government and the governments of the several States.

2.5 Credit Hours.

LW 302. CRIMINAL LAW, EVIDENCE, AND MILITARY LAW

Criminal Law. Treats the substantive criminal law including the definition and classification of crimes, the criminal act and intent, capacity, exemptions from criminal liability, the parties to offenses and the elements of particular common law and statutory offenses. Certain military crimes are included.

Evidence. Treats the origin and development of the rules of admissibility of evidence as is necessary to an understanding of those rules, and the application of particular rules in civil and criminal cases, including courts-martial.

Military Law. A study of the substance of certain military offenses (carried over from Criminal Law) and the mechanics of Military Law proper by familiarizing the cadet with the complete statutory framework of the military justice system. The course is concerned primarily with practice and procedure before courts-martial with emphasis upon the personal duties of the commander as well as those of the trial and defense counsel. Included is a brief treatment of military administrative procedures and the law of land warfare. Practical work in moot courts is featured.

2.5 Credit Hours.

Foreign Language Class

Classroom Recitation in Mathematics

Elective Course

LW 481. INTERNATIONAL LAW AND THE MILITARY (*Either term*)

Survey of International Law. An introduction to International Law to include a discussion of the nature and sources of International Law; problems of nationality; recognition of states; jurisdiction of states; international agreements and diplomatic intercourse.

Military Aspects of International Law. A survey of the types of conflict; the opening of hostilities; the conduct of hostilities; the rights and duties of neutrals; Status of Forces Agreements and research problems in these areas.

2.5 Credit Hours.

DEPARTMENT OF MATHEMATICS

Professors: COL. C. P. NICHOLAS (Head of Department), COL. J. S. B. DICK.
Associate Professors: COL. G. W. BIXBY; LT. COL. J. H. CABANISS.
Assistant Professors: LT. COLS. W. H. KARSTEDT, D. H. SMITH; MAJS. C. F. BAISH, JR., D. H. CAMERON, J. P. CHANDLER, H. T. CROONQUIST, J. H. COUSINS, J. E. CULIN, D. L. EMERSON, R. C. EWAN, JR., T. W. FIFE, E. D. PATTERSON, C. L. SPETTEL, R. H. WAGNER; CAPTS. W. R. BALDWIN, E. A. DAGGIT, D. F. DAVIS, G. K. OTIS.
Instructors: LT. COL. T. E. ROGERS; MAJS. T. F. BAMFORD, A. M. R. DEAN, A. GERARDO, F. E. HAMILTON, M. J. KRUPINSKY, R. A. LITTLESTONE, W. H. LOWREY, J. R. MACKERT, H. E. STRICKLAND; CAPTS. N. G. BLAHUTA, R. J. BURKE, J. P. CAMPBELL, J. L. CANNON, S. P. A. DARLING, R. W. DINWIDDIE, L. M. EBERHART, J. A. EUBANKS, B. M. FILASETA, F. J. FRENCH, JR., J. GANAHL, K. H. GATES, JR., J. I. HINCKE, JR., W. L. HORN, R. S. MCGARRY, R. M. MEYER, J. S. SIBLEY, D. R. SWYGERT, H. W. TOUSLEY, H. S. WILSON.

Mathematics at West Point is organized into three programs, called standard, advanced, and elective. The standard and advanced programs are given during the cadet's first two years. The elective courses are designed for cadets in their final year, but are open also to sufficiently well qualified cadets in their third year. Successful completion of the standard program satisfies the mathematics requirement for graduation from the Military Academy. The advanced program is designed for cadets who by aptitude or prior achievement in mathematics are able to accelerate their completion of portions of the standard program. Depending on the rate of progress they may be admitted to one or more (in many cases to all) of the advanced courses. During the first two years all cadets are assigned electronic computer problems based on principles taught in the mathematics courses, thus gaining practical experience in numerical methods and computer technique early in the four-year academic program.

During his first year the cadet attends mathematics 6 days a week, during the second year 3 days a week. The standard and advanced programs consist of the following courses:

Standard Program: MA 101–102–201–202–204.

Advanced Program: Satisfaction of the Standard Program requirements plus one or more of MA 152–251–252.

The details are given in the outline that follows:

Standard Courses

These courses are designed for the cadet whose background of high school mathematics is the minimum required for admission to the Military Academy. Satisfactory completion of these fulfills the mathematics requirement for graduation from the Military Academy.

MA 101. Calculus and Analysis

This is the first term course in the cadet's first year. Calculus is introduced early in the term by work in foundations of the number system to include partitioning, nested intervals, the concept of ϵ, variables, limits and infinite position numerals, followed by work in controlled numerical approximations, functions of a single real variable, the δ–ϵ criterion, and continuity. The study of calculus is interrupted in mid-term to provide the student familiarity with prerequisite topics of plane analytic geometry not sufficiently covered in his mathematical preparation prior to entering the Military Academy. Calculus is then resumed, completing the study of derivatives and differentials of algebraic and transcendental functions, with fundamental applications. Numerical methods suitable to electronic digital computation are emphasized. The course includes a few lessons in spherical trigonometry essential for military applications. *7.5 Credit Hours.*

MA 102. Calculus, Analysis and Linear Algebra

The first-year second term course is a continuation of MA 101. It includes further applications of the derivative and differentials, introduction to differential equations to include the central force problem and applications to long range trajectories and orbits; analytic geometry of three dimensions; linear algebra to include vector spaces, the algebra of matrices, linear transformations, and the theory of eigenvalues and eigenvectors. The course closes with a return to calculus to include partial differentiation and applications, vector differentiation, the gradient, the divergence, and fundamental concepts of integral calculus with attention to elementary numerical

approximations of definite integrals and techniques of integration. Problems in electronic digital computation, using principles of calculus, are assigned concurrently.

7.5 Credit Hours.

MA 201. CALCULUS

This course is given during the first term of the cadet's second year of mathematics. It further develops integral calculus started in MA 102, to include applications to geometrical and physical problems, infinite series, expansion of functions, and multiple integrals. Problems requiring electronic computation are assigned concurrently.

3.5 Credit Hours.

MA 202. DIFFERENTIAL EQUATIONS

This is a brief course in differential equations, following MA 201. Continuing from the introduction to differential equations given in MA 102, it treats solutions of standard types of first and second order equations using differential operators, method of undetermined coefficients, integrating factors, certain higher order equations, and applications to physics and engineering. Methods requiring electronic computation are included.

1.5 Credit Hours.

MA 204. PROBABILITY THEORY AND STATISTICAL INFERENCE

This course covers the last three quarters of the second-year second term, and emphasizes calculus as a prerequisite. Included are fundamentals of probability theory and mathematical models to include random variables, probability distributions and measurements of these distributions, probability and density functions; binomial and normal distributions; use of de Moivre's theorem, the Central Limit theorem, and the Student-t, Chi-Square and Poisson distributions; basic statistical inference including sampling distributions, theory of estimation, hypothesis testing; correlation; and applications of these techniques to practical problems.

3 Credit Hours.

Advanced Courses

One or more of these courses may be taken by selected cadets whose preparation in mathematics before entering the Miltiary Academy exceeds the minimum requirement for admission. In addition, cadets whose demonstrated proficiency in mathematics at the Military Academy indicates that they are qualified to pursue the standard

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courses at a more rapid pace may complete an accelerated version of those courses and be admitted to one or more of the advanced courses.

MA 152. LINEAR ALGEBRA AND LINEAR PROGRAMMING

This course comes in the second term of the cadet's first year, and is given to those able to complete MA 101 and MA 102 early, by a combination of rapid acceleration and the giving of credit for prior work. Part of the time gained is devoted to 2½ credit-hours of work in linear programming and linear algebra beyond that in MA 102, with emphasis on military applications.

2.5 Credit Hours.

MA 251. ADVANCED CALCULUS

This course, in the first term of the cadet's second year, follows completion of most of MA 201 by advanced-group cadets in their first year. It treats differential and integral calculus of scalar and vector functions of more than one variable to include: Jacobians, gradient, curl, divergence, multiple integrals, line and surface integrals, Green's Theorem, the Divergence Theorem and Stokes' Theorem, and applications to problems in physics and engineering.

3 Credit Hours.

MA 252. DIFFERENTIAL EQUATIONS I

This is a more advanced and extensive treatment of differential equations than is found in MA 202, with greater emphasis on scientific and engineering applications. It includes solutions of standard types of first and second order equations using differential operators, method of undetermined coefficients, integrating factors, variation of parameters, linear equations of higher order, approximate numerical solutions, series solutions, introduction to Legendre's equation, wave equation, Fourier analysis and Laplace transforms; and applications to problems in physics and engineering.

2 Credit Hours.

Elective Courses

These courses are offered as electives for the cadet in his third or fourth year at West Point.

MA 481. LINEAR ALGEBRA AND LINEAR PROGRAMMING (*Either term*)

Scope is essentially the same as for linear algebra and linear programming coverage in MA 152, except for reduced depth of coverage resulting from shorter classroom periods.

2.5 Credit Hours.

MA 483. ADVANCED CALCULUS I (*First term*)

Prerequisite: MA 201.

Scope is essentially the same as for MA 251 except for the reduced depth of coverage resulting from shorter classroom periods.

2.5 Credit Hours.

MA 484. DIFFERENTIAL EQUATIONS II (*Either term*)

This course is an extension of the topics and methods introduced in MA 202 or MA 252. It includes ordinary differential equations; power series solutions and the more important special functions of engineering; Fourier series and orthogonal functions; partial differential equations and boundary value problems; numerical methods; and applications to science and engineering.

2.5 Credit Hours.

MA 485. ADVANCED CALCULUS II (*Either term*)

Prerequisite: MA 251 or MA 483.

This course is primarily an introduction to functions of a complex variable, including operations with complex numbers, Cauchy's integral theorem, expansions in series, residues and conformal mapping. Also included in the course are selected topics in infinite series, Fourier series and orthogonal functions.

2.5 Credit Hours.

MA 486. NUMERICAL ANALYSIS WITH ELECTRONIC DIGITAL COMPUTATION (*Second term*)

This course emphasizes the methods of numerical analysis with the digital computer in a strong supporting role. It includes methods grouping together the cadet's entire mathematical background in linear algebra, calculus and differential equations, in a context of modern numerical methods requiring programming and execution of solutions on the electronic computer.

2.5 Credit Hours.

DEPARTMENT OF MECHANICS

Professors: Col. E. R. Heiberg (Head of Department), Col. H. R. Fraser.
Associate Professors: Majs. R. T. Drury, USAF, T. U. Greer.
Assistant Professors: Majs. J. D. Daigh, S. C. Stevens, A. B. Suttle, R. M. Wilson; Capts. J. C. Bard, F. L. Donald, Jr., USAF, R. E. Goodwin, M. F. Meador, J. M. Misch, L. C. Wagner, Jr., C. E. Watkins.
Instructors: Maj. T. W. Nelson; Capts. H. F. Barnes, F. B. Bowling, A. G. Broumas, W. J. Eddins, Jr., E. A. Gilbert III, E. C. Keiser, H. W. Munson, Jr., S. R. Sydenham, W. L. Wallace, C. D. Wood.

Standard Courses

ME 301. Thermodynamics

A study of the transfer and conversion of thermal energy and mechanical energy. The course includes a study of fundamentals, types of energy, properties of thermodynamic media, the first and second laws of thermodynamics, the ideal gas, thermodynamic processes, gas engine cycles, vapor power cycles, refrigeration, nozzles and jet propulsion, and mixtures. The more capable students study the fundamentals of heat transfer in lieu of certain reviews and examinations.

Laboratory. A correlation of theory and practice. The equipment used includes gasoline, Diesel and fuel research engines, steam engines and turbines, air compressors, gas turbines, and refrigeration and air conditioning units.

4 Credit Hours.

ME 302. Fluid Mechanics

A study of the laws of mechanics as they apply to liquids, vapors, and gases. The course includes a study of fluid properties; principles of fluid statics; fluid flow concepts; impulse-momentum; viscous effects; closed conduit flow; boundary layer and basic drag concepts; dimensional analysis and dynamic similitude; flow measurement; open channel flow; aerodynamics with emphasis on lift, drag, flight stability, and shock effects in transonic and supersonic flight; compressible flow. The more capable students solve a special problem in lieu of certain reviews and examinations.

Laboratory. Practical exercises illustrating theory previously studied in the classroom. Equipment used includes pumps, turbines, flow measurement devices, pipe friction measurement devices, supersonic and subsonic wind tunnels, smoke tunnels, and a supersonic nozzle thrust stand.

4 Credit Hours.

ME 303. ENGINEERING MECHANICS I

The principles of mechanics considered essential for an understanding of basic engineering, including the study of statics and strength of materials. The statics portion of the course includes components of forces, moments, couples, resultants, free body diagrams, equilibrium, centroids, centers of pressure, truss analysis, friction, and moment of inertia of areas. The strength of materials portion considers the relations between loads and the resulting deformation and stresses in nonrigid bodies. Axial, torsional, flexural, column, and combined loadings are studied. Primary emphasis is placed on elastic behavior, but a brief analysis of the plastic range of stress is included. Also included are stress at a point using Mohr's circle, statically indeterminate axially loaded structures, thin wall vessels, temperature effects, torsion of circular members, flexure, shear and moment diagrams, shear in beams, beam deflections by double integration method, beams of two materials, columns, and combined loading.

4 Credit Hours.

ME 304. ENGINEERING MECHANICS II

A continuation of Mechanics 303 containing the principles of mechanics considered essential for an understanding of engineering dynamics including the study of kinematics and kinetics. The kinematics portion includes both absolute and relative motion of particles and rigid bodies, the study of their displacement, velocity, and acceleration, and the study of trajectories. The kinetics portion includes a study of the force, mass, acceleration method, the work and kinetic energy method, and the impluse and momentum method for particles and for rigid bodies with translation, rotation, or plane motion. Coriolis' acceleration, gyroscopic action, and simple harmonic motion are studied.

Laboratory. Exercises illustrating theory discussed in strength of materials portion of ME 303 and 353. Tests are conducted with tension, torsion, beam, column, and combined loadings.

4 Credit Hours.

Advanced Courses

ME 351. ADVANCED THERMODYNAMICS

A course for cadets who have demonstrated ability to proceed more rapidly through the subject material (including selected laboratory exercises) of ME 301.

2.5 Credit Hours.

ME 352. Classical Thermodynamics

Prerequisite: Successful completion of ME 351.

Further study of the First and Second Laws of thermodynamics and their consequences with emphasis on a rigorous mathematical analysis of Thermodynamic systems and media.

1.5 Credit Hours.

ME 353. Advanced Engineering Mechanics

Prerequisite: Demonstrated ability in mathematics and physics for more rapid and comprehensive work.

An accelerated coverage of the subjects indicated in ME 303 using vector approach in statics, and covering the additional topics of virtual work, minimum potential energy, torsion in noncircular sections, shear flow and shear center, deflection in beams by methods of moment area, shearing stresses and superposition, and inelastic column theory.

4 Credit Hours.

ME 354. Vector Mechanics

Prerequisite: Demonstrated ability and successful completion of ME 303 or 353.

An accelerated coverage of the subjects indicated in ME 304 using vector approach in deriving basic relationships and in solving problems, plus advanced laboratory work in combined torsion and beam loading experiments. A more rigorous study of three-dimensional motion, gyroscopic effects, and vibrations. Planetary motion, jet and rocket propulsion. An introduction to advanced energy methods (LaGrange's Equations).

4 Credit Hours.

ME 356. Advanced Fluid Mechanics.

Prerequisite: Demonstrated superior ability in Thermodynamics and Engineering Mechanics.

A vector-oriented coverage of the topics listed in ME 302, with emphasis on the theoretical and mathematical development of the general laws of fluid mechanics. A knowledge of vector algebra is assumed; however, the field operators of vector calculus are developed carefully and thoroughly.

Laboratory. Practical exercises illustrating theory developed in the classroom. Equipment available includes pumps, turbines, flow measurement devices, pipe friction measurement devices, supersonic, subsonic and smoke tunnels, and a supersonic nozzle thrust stand.

4 Credit Hours.

Elective Courses

ME 481. GAS DYNAMICS (*Either term*)

Prerequisites: ME 301 (or 351–352), ME 302, ME 303 (or 353), ME 304 (or 354).

A course covering the general field of compressible fluid motion including topics of interest to aeronautics, astronautics, and the study of ballistic missiles. The course presents basic principles of fluid dynamics and thermodynamics and proceeds to concepts peculiar to both subsonic and supersonic compressible flow. Principal analysis of fluid motion is one-dimensional covering isentropic flow, normal shock waves, and flow in ducts. An introduction to two-dimensional supersonic flow is also presented including a study of oblique shock waves.

2.5 Credit Hours.

ME 483. SPACE MECHANICS (*Either term*)

Prerequisites: ME301 (or 351–352), ME 302, ME 303 (or 353), ME 304 (or 354).

An introduction to the trajectory problem of the space vehicle. The course includes a consideration of the minor planets and comets for background, the development of Kepler's Laws of motion, the geometry of the two-body elliptical, parabolic, and hyperbolic orbits, principal coordinate systems, and astrodynamic constants. There is a brief consideration of the n-body problem, special and general perturbations, and nongravitational and relativistic effects. The final phase of the course is devoted to the application of basic principles to satellite, lunar, and interplanetary missions. For those cadets interested and capable, there will be advanced work in orbit determination using Gibbs' or Laplacian methods.

2.5 Credit Hours.

DEPARTMENT OF MILITARY ART AND ENGINEERING

Professors: COL. V. J. ESPOSITO (HEAD OF DEPARTMENT), COL. C. H. SCHILLING.
Associate Professors: COL. J. R. ELTING; LT. COLS. C. L. HELTZEL, W. F. ROOS.
Assistant Professors: LT. COLS. A. J. FORSYTHE, H. ROMANEK, D. E. WILBOURN; MAJS. B. B. ATON, USAF, F. R. DAY, A. C. ESSER, E. M. WILLIS.
Instructors: LT. COLS. J. W. BRENNAN, H. LOHN, T. J. PERKINS, A. P. WADE; MAJS. B. T. BASHORE, L. A. BROWN, G. E. JESTER, W. H. JOHNSON, A. J. MAYER, L. G. MICHAEL, JR., R. A. ROBERGE, G. W. SCHULZ, W. E. VANDENBERG; LT. CMDR. R. L. LARSEN; CAPTS. F. M. ANKLAM, R. H. SMITH, D. WILSON.

Standard Courses

HM 401–402. HISTORY OF THE MILITARY ART.

Prerequisites: TA 301–302.

The evolution of the art of war—on land, on sea, and in the air, and its probable course in the future. Beginning with the campaigns

of Alexander of Macedon, this course explains the changes in concepts of warfare which led to the replacement of royal armies by national armies, and to the emergence of global and total wars. The historic development and modern application of all types of warfare are considered, from guerrilla operations to nuclear warfare. Throughout the course, emphasis is given to: the impact of continuous technologic and industrial progress on the techniques of warfare through the development of new weapons and equipment; the gradual recognition, formulation, and application of the governing principles of war; the increasing influence of logistics on strategy and tactics; the growing interrelationship of land, sea, and air power, and the consequent problems and principles involved in the organization and functioning of high commands in joint operations; the resurgence of irregular and unconventional warfare; the attributes of outstanding great captains and their contributions to the art of war; and to the doctrines and philosophies of important military thinkers and writers. The course also points out the impact on warfare of non-military factors—treated in detail by the Department of Social Sciences—concurrently with the study of military operations.

8 Credit Hours (4 each term).

CE 401. STRUCTURAL ANALYSIS

Prerequisites: ME 303–304.

Analysis of stresses in statically determinate and indeterminate structures and structural members due to uniform loadings, concentrated loadings, and combinations thereof. It includes determination of reactions, shear, moment, and axial stresses; placement through the use of influence lines of moving live loads to produce maximum stress; the analysis of maximum stress in simple and subdivided, parallel and nonparallel chord trusses, continuous beams, and basic structural frames; the analysis of members subject to reversal of stress; introduction to the anlaysis of long span structures, space frames, and cables; and approximate methods of analysis of indeterminate structures. Analytical methods utilized in indeterminate structures include moment-area and moment distribution. The augmented course given upper sections (upper 30–40 percent of class) consists of the above with the following additional material: influence lines for K and subdivided trusses; analyses of more complicated indeterminate structures using the methods of virtual work and moment distribution with sidesway correction; settlement and elastic supports; and introduction to slope deflection. Throughout the

course emphasis is given to development of an understanding of the engineering philosophy and decision making process.

4 Credit Hours.

CE 402. STRUCTURAL DESIGN, SOILS, AND CONCRETE

Prerequisite: CE 401.

Study of the principles and theory of design of steel and timber structures, with an introduction to reinforced concrete design. It includes design of beams with consideration of flange buckling, plate girders, tension and compression members (built-up members), members subject to combined direct stress and flexure, riveted and welded joints; engineering characteristics of timber as a material; design of a simple timber structure; solution of a complete engineering analysis-design problem starting with the development of the engineering concept and requiring creative thought and application of principles studied previously. The augmented course given upper sections consists of the above with the following additional material: a more comprehensive engineering analysis-design problem; the basic theory of reinforced concrete design to include design of beams, slabs, web reinforcement, and columns; introduction to prestressed concrete design.

Study of soils classification and identification systems, engineering characteristics of soils, soils design based upon the California Bearing Ratio as applied to highways and airfields, and protective characteristics of soils against nuclear weapons effects. Instruction in concrete includes engineering characteristics of concrete as a material; fundamentals of concrete proportion and mix design, placement and curing; use in shielding against nuclear radiation effects. Concrete laboratory work includes standard quality and control tests and demonstration of the fundamental laws. The augmented course given upper sections includes a more extensive coverage of the above topics. Throughout the course emphasis is given to development of an understanding of the engineering philosophy and decision making process.

4 Credit Hours.

Honors Courses

CE 451—452. CIVIL ENGINEERING

Prerequisites: Standing in top 15 percent of class in Mathematics, Mechanics, and Physics.

The Honors Course for exceptionally capable cadets includes the topics listed above in the two standard courses (CE 401 and CE 402). The cadet accelerates this study at a pace governed by his own individual capability. He is excused from regular class formations,

instead meeting weekly (as a minimum) with his advisor. Teaching techniques normally used for graduate studies are employed, emphasizing individual study and research. The time gained is used to cover one or more advanced topics of cadet choice or an individual analytical and/or laboratory project, where approved by the advisor. Typical approved additional topics from which the cadet may choose include but are not restricted to the following:

Structural Analysis. Analysis of space frames; analysis of indeterminate structures to include the general method, slope deflection, conjugate structure, and column analogy; introduction to analysis of structures subjected to dynamic loadings; introduction to analysis of structures by the plastic theory; electronic digital computers and their application to the solution of civil engineering problems.

Structural Design. An extension of reinforced concrete design; basic theory of prestressed concrete; and a more advanced engineering analysis-design problem involving individual analytical investigation and/or experimental investigation.

Soils and Concrete. Characteristics of air-entrained concrete, soil mechanics laboratory, and soil trafficability.

8 Credit Hours.

CE 453–454. Introduction to Nuclear Engineering

This course is offered to cadets of demonstrated high ability in Mathematics, Electricity and Mechanics of Solids, in lieu of the standard courses in Civil Engineering 401 and 402. It provides a study of the engineering principles involved in design of nuclear reactors and nuclear powerplants and an appreciation of the interrelations and effects of operating conditions on reactor design variables. The course includes fundamentals of structural theory; consideration of biologic effects of nuclear radiation; absorption of nuclear radiation in reactor shielding materials; structural analysis of reactor pressure vessels and containment structures, including consideration of thermal stresses and radiation damage to vessel materials; reactor core design, emphasizing heterogeneous, enriched-uranium reactors; coolant hydraulics and heat transfer in reactors and reactor system heat exchangers; and control of reactors during steady-state and transient operating conditions. The course concludes with an engineering analysis—design problem which begins with the development of an engineering concept for a power reactor suitable for furnishing electricity at remote military installations and continues the design of the reactor requiring creative thought and

application of principles studied earlier in the course. Throughout the course emphasis is given to development of an understanding of the engineering philosophy and decision making process.

Concurrent requirement in the first term: Elective, Electricity 482. Nuclear Reactor Theory.

8 Credit Hours.

Elective Courses

HM 481. EARLY MODERN WARFARE (1500–1815) (*First term*)

Prerequisite: HM 401 may be taken concurrently.

HM 483. NINETEENTH CENTURY WARFARE (1815–1914) (*Either term*)

Prerequisite: HM 401, or may be taken concurrently.

HM 484. TWENTIETH CENTURY WARFARE (1914–THE PRESENT) (*Second term*)

Prerequisite: HM 401.

The elective courses HM 481, 483, and 484 are more penetrating studies of the specified military eras covered broadly in HM 401–402.

2.5 Credit Hours each.

CE 481. DESIGN OF CONCRETE STRUCTURES (*Either term*)

Prerequisites: ME 303–304.

The theory of reinforced concrete design and analysis. This course will include a basic study of concrete as a material, laboratory investigations and demonstrations, and the design and analysis of conventional structural shapes and basic structures. Ultimate strength analysis and an introduction to prestressed concrete will also be included. For those cadets who desire, a special subcourse will be offered in the application of electronic computers to the solution of structural problems in concrete to include the basic principles of programming techniques.

2.5 Credit Hours.

CE 482. ADVANCED STRUCTURAL ANALYSIS (*Second term*)

Prerequisite: CE 401.

This course provides a continuation of the study of structural analysis into the area of indeterminate structures. Methods of analysis

appropriate to both the elastic theory and the plastic theory will be studied. Elastic theory methods will include conjugate beam, energy methods, slope deflection, moment distribution to include two degrees of freedom, and numerical approximate analysis. For those cadets who so desire, a special subcourse will be offered in the application of electronic digital computers to the solution of structural problems to include the basic principles of programing techniques, capabilities, and limitations.

2.5 Credit Hours.

CE 483. SOIL MECHANICS (*First term*)

Prerequisites: ME 301-302-303-304.

A study of the basic principles and fundamentals of soil mechanics and of the application of these principles to engineering problems. Basic laboratory work includes compaction tests, Atterberg limits, grain size analysis, CBR test, water content determination, unconfined compression test, and model analysis of flow lines and the "quick" condition. Advanced laboratory work is available to selected cadets. Engineering problems will include the military problem of cross-country mobility as affected by soil trafficability, design of embankments and military airfield pavements, and foundation problems such as the prediction of settlement of structures during and after construction, selection of type foundation for given soil conditions, footings and raft foundations, pile and pier foundations, retaining walls and abutments, shoring and underpinning, stabilization and drainage, and excavation and bracing procedures.

2.5 Credit Hours.

CE 484. INDIVIDUAL ENGINEERING PROJECTS (*Second term*)

Prerequisite: CE 401.

The objective of this course is to permit the cadet to study specialized topics of military and civil engineering not covered in the standard course or to permit him to concentrate his study upon an area of particular individual interest. The course will be conducted on a small group or individual basis and will consist of field trips, laboratory and classroom work and group discussion. The exact scope of the course of study will be established through discussion between the cadet and the Course Director. The course will be presented so that the cadet is required to establish the definition of the problem and its parameters, to study the fundamentals involved; to organize his own plan of attack; to determine his laboratory procedure if

laboratory work is involved; to analyze the problem; and to achieve a solution. Throughout, emphasis will be given to the engineering decision making process.

2.5 Credit Hours.

DEPARTMENT OF MILITARY HYGIENE

Professor: COL. C. H. GINGLES (Head of Department).
Assistant Professor: CAPT. W. H. JOHNSON, JR.

The Department of Military Hygiene presents instruction to the cadets during their first two years at the Military Academy.

During the summer of the Fourth Class year, the cadet receives instruction in self and first aid, field sanitation and personal hygiene. In the academic portion of the Fourth Class year, the cadets receive instruction in anatomy and physiology that includes all basic considerations of the function of the human body to include mechanics of movement, production of energy, mechanisms of temperature control, reproductive system, nervous system, endocrine system, environmental medicine, and the effects of alcohol, tobacco and drugs.

The organization, function and employment of medical units with the combined arms. Emphasis is given to the methods of treatment and evacuation at Battle Group level. Emphasis is also placed on the small-unit commander's responsibility for unit level medical service. This instruction is given as part of summer training.

DEPARTMENT OF ORDNANCE

Professor: COL. J. D. BILLINGSLEY (Head of Department).
Associate Professors: MAJS. J. R. Mathias, R. Sherman.
Assistant Professors: MAJS. F. KING, G. M. MONTGOMERY; CAPTS. T. H. BRAIN, H. W. LACQUEMENT, E. A. O'HAIR, E. C. THOMAS, T. E. WILLIAMS.
Instructors: CAPTS. J. S. CHESBRO, R. M. GOMEZ, J. A. LITTLE, J. C. SCHOLZ, R. F. TRABERT, R. C. WESTERFELDT.
Laboratory Officer: CWO M. A. STEWART.

Standard Course

OE 401–402. ORDNANCE ENGINEERING

Prerequisites: EL 301, 302, 303–304, 305–306; ME 301, 302, 303, 304.

This course is designed to give the cadet experience in the application of previously studied scientific and engineering principles to weapon systems. Coverage is given to sources of energy such as chemical, electrical, and nuclear types; ballistics including electronic computers, weapon system components, trajectories, flight stabiliza-

Laboratory Instruction in Mechanics

Ordnance Analog Computer

tion, servomechanisms, guidance, fuzes, and terminal effects; propulsion including the rocket, gas turbine, spark and compression ignition engines, power transmission, engineering materials, land and air locomotion; weapon system design study including the development of parameters for and the analysis and design of a proposed new Army weapon system. Integrated laboratory exercises are included.
8 Credit Hours.

Elective Courses

OE 481. AUTOMOTIVE ENGINEERING (*Either term*)

Prerequisites: ME 301–302; ME 303 (may be taken concurrently).

An integrated engineering course designed to stress the engineering approach in the analysis of vehicular engineering systems. After an introduction to the problem of land mobility, the course covers the detailed analysis of powerplants with their associated auxiliary systems, as well as power train and chassis components. The course is climaxed by the investigation of vehicle performance in terms of acceleration, power and load capacity both on hard surface roads and in cross country operation. An integrated laboratory is designed to prove the theoretical analysis. Consideration is given to practical problems encountered by the U.S. Army in the field.
2.5 Credit Hours.

OE 482. INDIVIDUAL ORDNANCE PROJECT (*Second term*)

Prerequisite: OE 401.

The objective of the course is to permit advanced or specialized study of scientific principles applied in the field of Ordnance Engineering. Study may include either or both theoretical or laboratory effort based upon a sound preparatory investigation in mathematics and/or the basic sciences. Conduct of course will be on an individual or small group basis. Exact scope of study to be established by consultation between the cadet and the Professor of Ordnance. Performance will be based upon work completed, written reports, and periodic oral and written examinations.
2.5 Credit Hours.

OE 483. ENGINEERING MATERIALS (*First term*)

Prerequisites: CH 201–202, EL 305–306, ME 303.

A study of the properties of engineering materials and the changes these properties undergo in service. Metals, plastics, and ceramics are the general classes of materials studied. Emphasis is placed

upon the physical effects which determine the properties of a material so that deterioration or improvement in properties during service or manufacture can be understood. Laboratory periods, using light and electron microscopy, X-ray diffraction, and hardness testing, demonstrate the effect of changes in internal structure on engineering properties.

2.5 Credit Hours.

OE 485. MANAGEMENT ENGINEERING (*Either term*)

Prerequisite: MA 204.

An analytical approach to the development and application of management engineering techniques for effective work planning and control. Emphasis on the scientific method of analysis and its application in achieving effective use of resources, increased operational readiness of equipment, increased productivity of personnel, increased quality of work, and improved bases for decision-making. Development of techniques to include schematic models, engineering programming, statistical methods and economic analysis. Concurrent application of techniques to analyses of selected management problems and cases involving organizational structure, process and facilities planning, methods study and motion economy, work measurement and scheduling, inventory control, process control, quality control and cost control. Consideration of an integrated management control system including the application of automatic data processing equipment. Term project involving analysis of cases selected from local post support activities.

2.5 Credit Hours.

DEPARTMENT OF PHYSICS AND CHEMISTRY

Professors: COL. E. C. GILLETTE, JR. (Head of Department), COL. J. R. JANNARONE
Associate Professors: LT. COL. D. G. MACWILLIAMS, MAJ. R. E. THAYER
Assistant Professors: MAJS. D. W. EINSEL, JR., W. I. FOX, G. R. FULLERTON, P. J. KENNY, L. E. RADFORD, J. E. SCHWEIZER, R. A. SHADE, W. M. STEVENS, J. H. VANSTON, JR.; CAPTS. C. A. DEBELIUS, A. N. STUBBLEBINE, III.
Instructors: MAJ. R. J. MCNEIL; CAPTS. P. BAZILWICH, JR., H. W. BUTLER, G. W. CHANCELLOR, R. B. HENRY, F. S. HOLMES, JR., C. H. JONES, JR., P. MILLER, JR., W. S. O'SULLIVAN, J. C. PEARSON, A. V. RICHARD, R. C. H. SCHMIDT, J. D. SMITH, N. W. SPARKS, C. H. STEVENS, III, P. A. STYNES, E. A. WILHELM.

Standard Courses

PH 201–202. GENERAL PHYSICS

A course in college physics for students of science and engineering, covering contemporary as well as classical concepts. Vector

notation, vector algebra, and calculus are used throughout the course.

Laboratory. A laboratory program designed to develop an appreciation of scientific techniques and to illustrate fundamental physical concepts is correlated and integrated with the course in physics. Advanced laboratory work is undertaken by selected cadets.

8 Credit Hours (4 each term).

CH 201–202. General Chemistry

The study of the nature of matter and its nuclear, atomic, and molecular structure, the changes that take place in matter, and the associated kinds and amounts of energy involved, with particular emphasis on the fundamental concepts, principles, theories, and laws of chemistry.

Laboratory. The laboratory program is integrated with the general chemistry course. It has been designed to develop an appreciation of investigative techniques, to illustrate fundamental concepts, and to include an introduction to qualitative analysis.

8 Credit Hours (4 each term).

Advanced Courses

CH 251. Advanced Inorganic Chemistry

A one-semester study of special areas in inorganic chemistry for cadets who have demonstrated proficiency in the essentials of Chemistry 201.

Laboratory. Selected experiments illustrate the reactions and mechanisms of ionic and covalent compounds.

4 Credit Hours.

CH 252. Organic Chemistry

A study of the fundamental principles and theories of organic chemistry, with emphasis on the concept of reaction mechanisms and structure as applied to molecules and chemical bonds.

Laboratory. Experiments are selected to illustrate the behavior and identification of functional groups, and the preparation of organic compounds.

4 Credit Hours.

Elective Courses

PH 481. Introduction to Theoretical Physics I
(*First term*)

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A mathematical treatment of the fundamental laws, principles, and concepts of classical mechanics, including laws of motion, gravitational fields, particle dynamics, rigid body motion, and LaGrangian and Hamiltonian formulation, utilizing vector analysis and differential equations.

2.5 Credit Hours.

PH 482. INTRODUCTION TO THEORETICAL PHYSICS II
(*Second term*)

Prerequisites: PH 481, or MA 251, or MA 482, or ME 353–354.

A continuation of PH 481, covering electrostatics, magnetic fields, electromagnetic induction, Maxwell's Equations, electromagnetic properties of material media, physical optics, special relativity, and wave mechanics.

2.5 Credit Hours.

CH 481–482. PHYSICAL CHEMISTRY

A course covering standard topics in physical chemistry such as: description of physiochemical systems, laws of thermodynamics, thermodynamics of chemical equilibrium, changes of state, solutions and phase equilibrium, kinetic theory, electrochemistry, reaction kinetics, colloids and radioactivity.

Laboratory. Selected experiments are performed using precision physical measurements to illustrate colligative properties, thermochemistry, ionic equilibrium, transference and conductance, electrolysis and cell functions.

5 Credit Hours (2.5 each term).

DEPARTMENT OF SOCIAL SCIENCES

Professors: COL. G. A. LINCOLN (Head of Department), COL. A. A. JORDAN, JR.
Associate Professors: MAJS. J. B. DURST, R. H. NYE.
Assistant Professors: MAJS. J. G. BOATNER, R. E. CARIGNAN, E. DENTON, III, C. L. MANGAS, J. L. MORRISON, J. S. SULENSKI; CAPTS. F. J. ADAMS, USAF, A. S. ALBRO, H. A. GARN, J. V. GIBNEY, D. D. HORNER, L. D. OLVEY, G. K. OSBORN, A. A. SARDO, USMC, J. W. SEIGLE, W. P. SNYDER, H. E. B. SULLIVAN, D. E. VESSER, C. R. WALLIS; LT. W. D. MCCLELLAN.
Instructors: MAJS. J. H. BUCK, R. E. LYNCH, J. W. MANN, A. J. MANSINNE; CAPTS. F. J. BROWN, III, M. J. COLLINS, USAF, E. L. FITZSIMMONS, W. L. HAUSER, R. L. HUNT, H. W. JOHNSON, JR., D. H. MARTIN, C. R. PARKER, A. D. RAYMOND, S. C. SARKESIAN, D. P. SHAW, J. F. SLOAN, B. T. THOMPSON, W. M. WIX; LTS. R. L. GRETE, USAF, J. M. ROLLS.

SS 201. HISTORY OF MODERN EUROPE: 1500 TO 1900

A survey of the major developments in the history of Europe since the Renaissance. Provides a foundation for further study of the

institutions and issues of modern Western civilization. The central thread is political history, to which economic, intellectual and social developments are related, often through analysis of selected source readings.

2.5 Credit Hours.

SS 202. History of the United States and 20th Century Europe

A survey of United States history until 1900, followed by an integrated study of Europe and America from 1900 to the present. Emphasis is on the increasing integration of the Western community, its response to Communist pressures, and the influence of the Atlantic nations on the development of the contemporary global environment.

2.5 Credit Hours.

SS 301. Economic Principles and Problems

A survey course in basic economic principles, with national income providing the unifying theme, providing for the application of these principles to specific problems of public policy in this and following courses.

2.5 Credit Hours.

SS 302. United States Government

A study of the dynamics of U.S. politics, with emphasis on the processes, institutions, and problems of the national government, and including a survey of the basic aspects of state and local government. This course provides a conceptual framework of political science for later courses. It also includes an integrated subcourse in Economics of National Security which is an extension of the public policy problems portion of Social Sciences 301.

2.5 Credit Hours.

SS 401. Contemporary Foreign Governments

A comparative survey of the politics, political institutions, and problems of selected foreign countries, including Great Britain, France, and the Soviet Union. Consideration is given to current developments in the integration of Europe and the Atlantic Community and to the problems of government generally encountered in the developing nations.

2 Credit Hours.

Thayer Hall Entrance

Thayer Hall Auditorium

SS 403. History of Modern Asia

A cultural-political study of China, Japan, and India, designed to characterize the traditional cultures and societies of each, to study the impact of the West on these traditional societies, and to analyze the resultant problems and issues of today.

2 Credit Hours.

SS 407. International Relations

An interdisciplinary study of the world environment, building upon previous Social Sciences courses, with particular emphasis upon the nature of the forces changing the relationships among nations in the post-World War II era and on the role of the United States in world affairs. The theories and practices of interstate behavior are studied as well as the basic influences which condition the formulation and execution of U.S. foreign policy. The semester begins with a short subcourse in personal finance, including insurance.

4 Credit Hours.

Elective Courses

SS 381. History of Russia (*First term*)

A study of the historical development of the Russian nation and its relations with the Western world, with particular emphasis on the nature of the Russian Revolution, the regime which it produced, and the Communist Bloc as it presents a challenge to the West.

2.5 Credit Hours.

SS 382. History of United States Foreign Relations (*Second term*)

A study of the record of U.S. diplomacy from the early period of isolation to the current pattern of global alliances and commitment to the Atlantic Community. The events of this record are examined with emphasis on the evolving nature and broad currents of the foreign policy of the United States.

2.5 Credit Hours.

SS 383. Middle Eastern Studies (*First term*)

A study of the historical development of the Modern Middle East, with emphasis on the rise of Islam, the development of Islamic civilization, the impact of the West, and the modern problems and issues arising from Western and Communist influences.

2.5 Credit Hours.

SS 384. LATIN AMERICAN STUDIES (*Second term*)

A study of the historical development of Latin America to include the traditional cultures, the impact of Europe and the U.S., and the emergence and development of the independent states. Present day political, social, and economic institutions and trends are analyzed in the context of Western and Communist influences.

2.5 Credit Hours.

SS 385. COMPARATIVE ECONOMIC SYSTEMS (*First term*)

A study of the philosophical and theoretical bases of Capitalism, Socialism, and Communism coupled with an analysis of problems in the actual operation of these economic systems. The main issues of the alternative systems are raised in terms of the challenges posed by changing environments.

2.5 Credit Hours.

SS 386. POLITICAL PHILOSOPHY (*Second term*)

An introduction to the classic writings of Western political thought, emphasizing the emergence and refinements of the concept of constitutional government and the ethical values and other theory which underlie that concept. Particular attention is paid to the universal applicability of the writings of the great philosophers and their relationship to the political problems of today.

2.5 Credit Hours.

SS 483. NATIONAL SECURITY PROBLEMS (*Either term*)

An analytical study of the international arena and the threat posed to our national security by forces flowing among and between national states and blocs. The spectrum of alternatives in national strategies, instruments, and organizational techniques available to counter this threat are examined in depth. Various proposals for a U.S. national military policy are discussed in detail: massive retaliation, strategic deterrence, limited war, forward strategy, arms control, etc. Also included are measures to meet the Cold War threat, including collective security, economic and psychological warfare, counterinsurgency, and paramilitary policy. Cadets have the opportunity to discuss these matters with responsible officials and other experts in the problems under consideration.

2.5 Credit Hours.

SS 485. PROBLEMS OF THE DEVELOPING NATIONS (*Either term*)

A study of the political systems of the developing nations of Asia, Africa, and Latin America. The nature of the process of moderniza-

tion and the political institutions that are emerging therefrom form the theme of the course. Such trends as the development of attitudes toward the Great Power rivalry, the bases of insurgency, the emerging political role of military leaders and local communist parties are analyzed. Cadets have the opportunity to discuss these developing areas with citizens of the nations concerned and with other experts. *2.5 Credit Hours.*

DEPARTMENT OF TACTICS

Commandant of Cadets: BRIG. GEN. M. S. DAVISON.
Aide-de-Camp: 1ST LT. JOHN R. BLANTON, JR.
Deputy Commandant: COL. K. W. COLLINS.
Brigade Staff: S1: MAJ. J. P. KINGSTON; *Assistants:* MAJS. W. R. RICHARDSON, C. M. WATTERS.
Personnel Officer: CWO R. A. SMITH; *Operations Officer:* LT. COL. E. G. HEILBRONNER; *Assistant:* MAJ. L. J. FLANAGAN (Ret.) (Inactive); *S4:* MAJ. R. L. MARCH; *Assistant:* MAJ. J. L. LILLIBRIDGE; *CAO:* MAJ. J. R. THURMAN, III; *USNA LNO:* MAJ. J. M. SHULTZ.
First Regiment: Commanding Officer: COL. R. M. TARBOX; *Executive Officer/S3:* LT. COL. E. F. GUDGEL, JR., *S1/S4:* MAJ. E. R. OCHS; *Company Tactical Officers:* MAJS. R. L. HUNT, W. C. NORMAN, E. C. BETTS, E. A. PARTAIN, J. F. HOOKER; CAPTS. R. C. FORMAN, J. E. BOWEN, B. J. CHANCE, C. S. STODTER, N. R. GLIDDEN, USAF, D. H. GRANSBACK, C. HOSMER, III.
Second Regiment: Commanding Officer: COL. R. M. GLESZER; *Executive Officer/S3:* LT. COL. R. A. KING; *S1/S4:* MAJ. J. J. DORNEY; *Company Tactical Officers:* MAJS. R. J. TALLMAN, R. J. ROGERS, E. PARMLY, IV, T. C. WYATT, R. M. KINNEY, A. M. FOOTE; CAPTS. S. N. LOWRY, D. G. WEINERT, R. D. SHIMUNEK, E. M. KNOFF, R. C. TURNER; LT. C. A. NELSON, USN.
Office of Military Instruction: Director: COL. P. V. TUTTLE; *Assistant Director:* LT. COL. C. M. MIZELL; *Plans O:* MAJ. F. G. GOSLING; *Instructors:* LT. COLS. C. E. SPRAGINS, G. F. HOGE, W. A. DAUGHERTY; MAJS. J. C. MCCRAW, W. J. SCHUDER, J. B. HOBSON. J. B. WHITTED; CAPT. T. L. MULLAN, JR.

Mission:

1. To develop character exemplified by a strong sense of honor and high moral standards.
2. To instill a broad sense of duty and responsibility.
3. To provide a broad basic military education.
4. To develop the qualities and attributes of leadership.
5. To develop high standards of physical leadership.

Military instruction aims at indoctrination in the fundamental concepts of the science of tactics and provides study, practice, and orientation in the history, materiel, methods, and techniques of the various arms and services of the Armed Forces of the United States. With this basis the graduate has the foundation considered

necessary for his progressive and continued development throughout a lifetime career as an officer of the Regular Army.

Standard Courses

FOURTH CLASS TACTICS

Summer. Basic military training in preparation for the military life. Orientation and indoctrination in duty and honor. This period in New Cadet Barracks is one of intensive fundamental military training to include qualification with the U.S. Army rifle and tactical training of the individual designed to prepare the new cadet to take his place in the Corps when it reassembles late in August.

7.5 Weeks. Ungraded.

Academic Year

TA 101

A continuation of military education to stress basic theory, instill pride in the profession of arms, and form the background to further military study through instruction in Military Heritage and fundamentals of military science.

1.5 Credit Hours.

TA 102

A continuation of military education to form the background to further military study through instruction in basic map reading and military hygiene.

1 Credit Hour.

THIRD CLASS TACTICS

Summer. To familiarize each cadet with the weapons of the Infantry Battalion, with the organization, equipment, and capabilities of the Tank Company, Artillery Battery, Engineer Combat Company, and the Signal Company as part of a combined arms team supporting Infantry units; familiarize each cadet with the field-type operations of the supporting services; provide practical map reading exercises; rigorous exercises in day and night patrolling and physical confidence training; teach and maintain proper standards of appearance, discipline, and physical condition. Emphasis is on practical application.

7.5 Weeks. Ungraded.

Academic Year

TA 201

Education of a more advanced nature to introduce the tactical principles of offense and defense emphasizing the combined arms

aspects, orientation and logistical support and principles, capabilities of the Soviet Army, and a review of the position of the Armed Forces in the National Military Establishment.

1 Credit Hour.

TA 202

A course to further the understanding of Military Heritage of the Armed Forces.

0.5 Credit Hours.

SECOND CLASS TACTICS

Summer. (1) A period of 2½ weeks devoted to an orientation trip to U.S. Army Signal Center, Fort Monmouth, and to advanced map problems, methods of instruction, orientation in Air Defense, Air Force, Naval Operations, and physical education.

(2) One month duty as platoon leaders with combat units of U.S. Army Europe (7th Army), or as squad leaders during New Cadet Barracks.

Ungraded.

Academic Year

TA 300

A single course of a full year's duration consisting of tactical instruction stressing the combat organization of, and support available to, the reinforced battalion; basic principles of its employment in a combat role using typical situations in the attack, the assault of a river line; implications of nuclear weapons; and logistical problems of a combined arms team.

2.5 Credit Hours.

FIRST CLASS TACTICS

Summer. (1) Orientation trip to U.S. Army Armor Center at Fort Knox, Ky.; Artillery and Missile Center at Fort Sill, Okla.; Air Defense Center at Fort Bliss, Tex.; Engineer Center at Fort Belvoir, Va.; and Infantry Center at Fort Benning, Ga.

2½ Weeks.

(2) One month duty either as (a) platoon leaders with combat units of U.S. Army Europe (7th Army) for cadets who did not receive this type training in Second Class Year, or (b) leaders at command and staff levels during New Cadet Barracks or Camp Buckner.

Ungraded.

Academic Year

TA 400

A single course of a full year's duration consisting of instruction in responsibilities of junior officers; instruction in current, large scale military problems; preparation of a 2,500-3,000 word staff study on a slelected military topic; review and summary of military fundamentals.

1.5 Credit Hours.

Military Psychology and Leadership

Director: Col. A. P. Hauser.
Associate Director: Lt. Col. H. A. Buckley.
Assistant Directors: Lt. Col. B. J. Wichlep, Maj. R. J. Petersen.
Instructors: Majs. J. R. Jennings, E. Marder, C. R. Stephenson, III; Capts. J. H. Anderson, R. F. Anthis, R. C. Baughman, J. P. Bergen, S. M. Drisko, J. O. Hayes, I. G. Katenbrink, Jr., W. C. Maus, E. B. Wilson.

Standard Courses

PL 202. Psychology and Methods of Instruction

An introduction to some elementary concepts of psychology with emphasis on the behavior of the normal human. Detailed consideration of the nature of scientific psychology and its methods including learning, individual differences, personality, emotion and motivation, problems of adjustment, and an introduction to leadership theory.

Instruction in the personal and professional qualifications required of a military instructor. Emphasis placed on practical application in supervised presentations by each cadet of a lecture, a military lesson, critiques, and impromptu presentations. Included are theoretical instruction and practical application of the principles of learning and training methods and procedures including preparation, presentation, communication of information and skills, purposes and types of examinations, conduct of critiques, management and supervision of instruction, and selection and design of training aids.

2.5 Credit Hours.

PL 401. Military Leadership

A study of the principles and techniques to perform the military leadership functions at all levels of command. A conceptual framework of leadership is presented to relate and integrate theory and functions of military management and personnel management. Throughout, stress is placed on the human element. Reinforcing the theory is free use of practical military situations, the classroom

solutions to which are accomplished through case study, group discussion, and role playing.

2.5 Credit Hours.

Elective Courses

PL 481. HUMAN RELATIONS (*Either term*)

Prerequisite: PL 201

A survey of research and principles developed in selected areas of social and managerial psychology. The course covers the socialization process to include the learning of language, development of attitudes and value systems. Emphasis is placed on the study of persons as members of a group and the resultant interpersonal relationships. Also included is a section on research methods and the application of human relations techniques in management.

2.5 Credit Hours.

PL 482. SOCIOLOGY (*Either term*)

Prerequisite: PL 201

An introduction to the principles of sociology, emphasizing the nature of groups to which individuals belong and the nature of the societies in which they live. A study of the social organization, social structure, and the social matrix within which the various complex phenomena of science, government and religion operate. The course covers many of the basic factors in the social life of men, e.g., culture, group behavior, social institutions, and social change.

2.5 Credit Hours.

Physical Education

Professor and Director: COL. F. J. KOBES, JR.
Assistant Director: MAJ. T. A. WARE, JR.
Professional Assistant: DR. L. O. APPLETON.
Instructors: MAJ. E. L. KEESLING; CAPTS. W. L. HARRISON, JR., R. P. HOY, J. L. HUTCHISON, F. S. LINDSEY, J. P. PERLOW, A. F. UNDERWOOD, G. E. VAN VALKENBURG; DR. A. C. WERNER; MESSRS. L. A. ALITZ, R. M. BRUCE, J. B. KRESS, H. J. KROETEN, W. F. LEWIS, G. W. LINCK, T. E. MALONEY, J. M. PALONE, R. E. SORGE.

Standard Courses

PE 101–102. PHYSICAL DEVELOPMENT AND ATHLETIC PARTICIPATION

Instruction designed to develop personal requisites for military effectiveness, the basic elements underlying physical ability (strength, muscular endurance, power, coordination, agility, balance, and flexibility), individual physical ability skills, and to enhance mental health and efficiency. These aims are accomplished through instruction in

gymnastics (apparatus), boxing, wrestling, and swimming. Instruction and participation in the sport of handball for those individual cadets who demonstrate a superior level of achievement at midcourse.

Player competition in intercollegiate sports of cross country, football, soccer, and 150-pound football; winter intercollegiate sports of hockey, pistol, rifle, squash, swimming, track, wrestling, basketball, and gymnastics. Apart from intercollegiate athletics, the intramural athletic program provides player competition in the fall sports of football, soccer, golf, tennis, track, and triathlon; winter sports of basketball, boxing, handball, squash, volleyball, skiing, wrestling, and water polo. For nonintercollegiate contenders, the intramural program provides a broad sports background while conditioning, teaching basic athletic skills, and giving experience in coaching teams and administering athletic programs.

3 Credit Hours (1.5 each term).

PE 201–202. Orientation in Athletic Skills and Instructor Training

Instruction designed to foster carryover athletic skills which will insure fitness in later years through the development and application of advanced physical skills and expansion of the repertory of individual and team sports to include basketball, handball, volleyball, squash, skiing, golf, tennis, and personal conditioning.

Instructions and application in methods and techniques of conducting conditioning exercises and allied physical training activities.

Athletic participation, as listed under PE 101–102, except that intramural participation must be in a sport in which the cadet has not previously engaged.

1.5 Credit Hours (1 first term, 0.5 second term).

PE 301–302. Development of Athletic Skills

Emphasis is placed on further expansion of the individual repertory of individual and team sports to include squash, handball, golf, tennis, or lifesaving and softball, flag football, volleyball, soccer, or basketball; increased emphasis on carryover athletic skills which promote fitness.

Athletic participation as listed under PE 101–102, except that intramural participation must be in a sport in which the cadet has not previously engaged.

1.5 Credit Hours (0.5 first term, 1 second term).

PE 401–402. HAND-TO-HAND COMBAT, LEADERSHIP, AND INSTRUCTOR TRAINING

Emphasis is placed on instructor and leadership training through advanced training in the combative skills of hand-to-hand combat. Practice teaching in Fourth Class Physical Education classes.

Athletic participation, as listed under PE 101–102, except that intramural participation must be in a sport in which the cadet has not previously engaged. Responsibilities of administering, coaching, and officiating in the intramural program.

1 Credit Hour (0.5 each term).

Additional Courses

A special program of weight control and reconditioning, basic swimming, voluntary conditioning, and a posture clinic to assist those who experience difficulty in achieving minimum standards of proficiency. Open to all classes.

Ungraded.

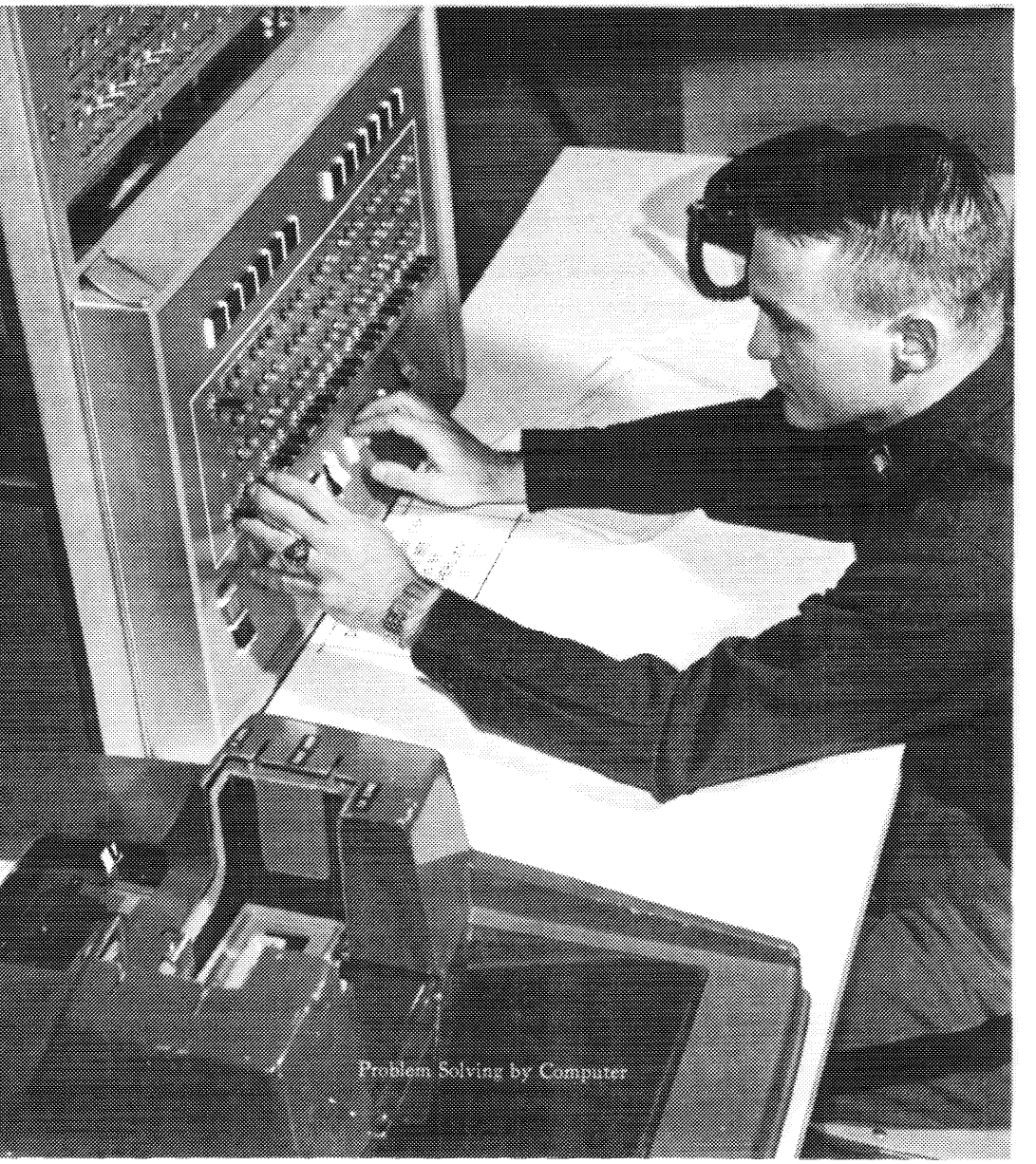
Spring Athletic Participation

With the same objectives as stated in PE 101–102, the spring program offers player competition in intercollegiate sports of baseball, lacrosse, golf, tennis, track, pistol, and rifle, or voluntary competition in the spring intramural program consisting of military boating, cross country, lacrosse, softball, and tennis. Approximately 89 percent of the Cadet Corps participates in this program.

Ungraded.

Annual Physical Fitness Tests

Physical Fitness Tests and Physical Ability Tests, including Obstacle Course Runs, conducted in fall and spring of each year for all cadets. Graded under PE 101–102, 201–202, 301–302, and 401–402.



Problem Solving by Computer

ACADEMIC COMPUTER CENTER

Director and Associate Professor: MAJ. W. F. LUEBBERT.
Assistant Director and Instructor: CAPT. H. C. HANNAWAY.

Every cadet learns to analyze and prepare problems for computer solution and receives basic instruction on computer programming and operation. Initial instruction is given by the Department of ES&GS in the Fourth Class year, and problem solutions using the computer are required by various departments throughout the cadet's course of instruction. Cadets are encouraged not only to prepare their problems for computer solution and use the computer as a "super-slide-rule" or "super-desk-calculator," but also to use it for special projects, monographs, term papers, etc. Cadets are encouraged to learn to operate computers and when properly qualified are authorized to schedule use of the Computer Center facilities even at times when members of the Center staff are not present.

The main computer is located in a 200-seat instruction hall to facilitate its use as a dynamic teaching aid for lectures and demonstrations. For instructional use it is supported by graphic plotters and closed circuit television equipment and a variety of audio-visual aids which improve audience contact. Academic departments use the Center's instruction hall for lectures, demonstrations or classes where dynamic computer solution of problems is an aid to instruction.

Plebe Boxing

ACTIVITIES AND SOCIAL LIFE

Contrary to popular opinion, cadets do not spend all their time parading, attending classes, and studying. There are many opportunities for social and recreational activities.

During the summer there is swimming and picnicking at Delafield Pond and Camp Buckner, and picnicking at Constitution Island. Picturesque Flirtation Walk winds for three-quarters of a mile along the majestic Hudson, offering a peaceful and shady retreat from the walls of barracks. Cadets stationed at Camp Buckner during the summer months of Yearling year enjoy swimming, canoeing, fishing, skeet, water skiing, and sailing. In the fall the Corps takes one or more football trips to Philadelphia or New York City where the bright lights are a welcome diversion. During the winter months, ice skating at Smith Rink and skiing on the post at the Constant Ski Slope are extremely popular. The T-bar ski tow, snow-making machine, and ski trails are probably among the finest ski facilities on any campus in America. The three upper classes go home for Christmas Leave. However, the Fourth Class which remains at West Point has a particularly enjoyable time because of the many special activities which are scheduled during the holidays. Throughout the academic year, frequent hops are held in either the gymnasium or Cullum Hall and movies are shown in the Army Theater. Prominent entertainers and programs are frequently brought to the Academy for performances.

In addition to general recreational activities, there are 59 organized extracurricular activities. Student government type activities are the Honor Committee, Class Committees, and the Ring and Crest Committees in each class.

Those cadets who like music and acting are encouraged to utilize their talents in the Dialectic Society, Dance Band, and the nationally-famous Cadet Glee Club. For those interested in radio broadcasting, there is the KDET Station with a fully equipped radio broadcasting station. The Cadet Protestant, Catholic, and Jewish Choirs sing at religious services on the post and usually make several appearances outside the Academy each year. The One Hundredth Night Show, the time-honored dramatic highlight presented annually by the Dia-

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Cadet Dance in Cullum Hall

lectic Society celebrating the one hundredth night before graduation, is written, produced, and acted solely by cadets.

Hobbyists find relaxation as well as opportunities to test and improve their skills as members of the Art, Camera, Bridge, Chess, Outdoor Sportsmen's, and Model Builders' Clubs.

Those who are interested in literary activities may seek outlets for their talents in *The Howitzer*, yearbook for the Corps of Cadets; *The Pointer*, the monthly magazine of the Corps of Cadets; and *Bugle Notes*, the cadet handbook more commonly known as the "*Plebe Bible*." Cadet press representatives conduct interviews and prepare hundreds of releases for hometown newspapers.

For those who want to explore fields of academic study on a broader or more intensive basis than is provided in the academic curriculum, there are the Mathematics Forum, five language clubs, Astronomy, Radio, Audio, and Rocket Clubs, and one of the largest and most active organizations at the Military Academy, the West Point Debate Council and Forum.

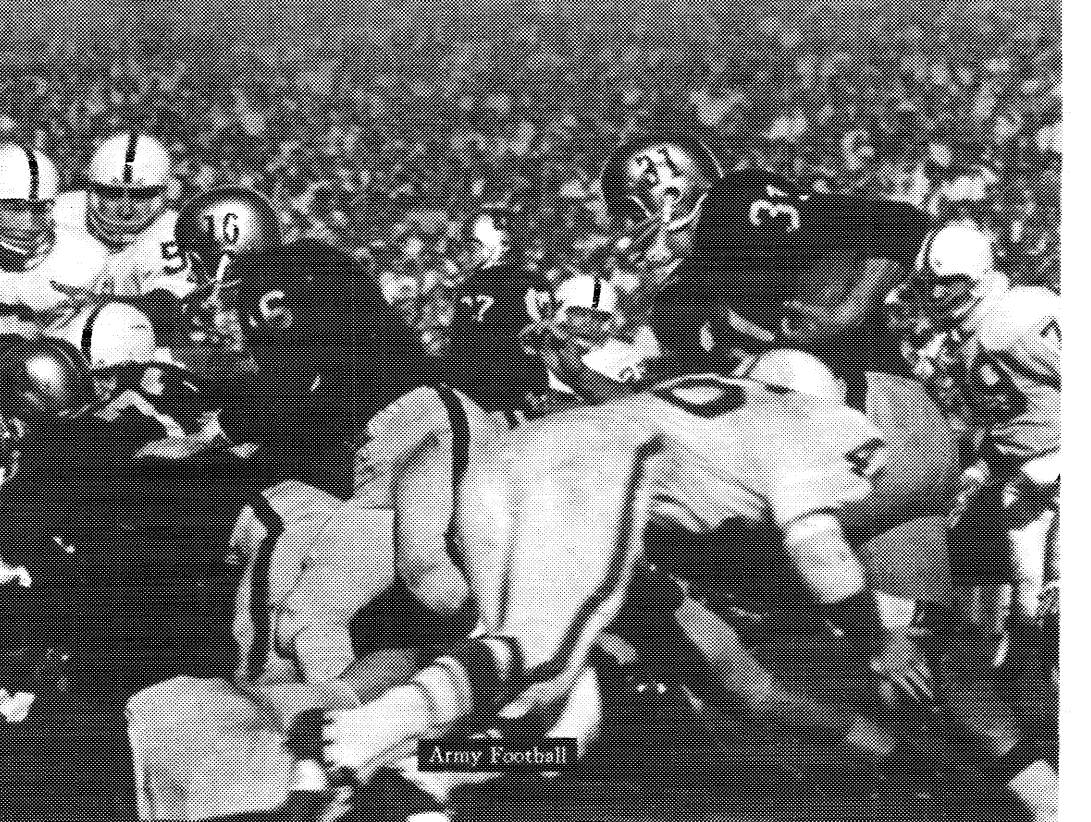
To round out the great variety of opportunities for recreation there are those clubs which compete with other colleges. These include the Handball, Pistol, Rifle, Fencing, Sailing, Skeet, Ski, Water Polo, Judo, Triathlon, Rugby, and Sky Diving Clubs.

Organized extracurricular activities are directed and administered almost entirely by the cadets themselves subject to the approval of the Superintendent. There is an officer in charge of each activity, who acts in an advisory capacity. From these activities, cadets acquire a wealth of knowledge or develop latent talent which subsequently will serve them well and be a source of pleasure in their careers as Army officers.

There are a number of large, well-equipped cadet reception rooms and lounges for cadets and their guests. Some have fully equipped snack bars, TV rooms, game rooms, and are normally open on weekends and holidays throughout the year. In addition, there are three Cadet Hostesses available to help plan the social and recreational programs for the Corps of Cadets. The Hostesses also provide assistance to cadets in obtaining accommodations for their guests during the year.

1963 ARMY FOOTBALL SCHEDULE

21	September	–	Boston University at West Point
28	September	–	University of Cincinnati at West Point
5	October	–	University of Minnesota at Minneapolis
12	October	–	Pennsylvania State University at University Park
19	October	–	Wake Forest College at West Point
26	October	–	Washington State University at West Point
2	November	–	Air Force Academy at Chicago
9	November	–	University of Utah at West Point
16	November	–	University of Pittsburgh at Pittsburgh
30	November	–	Navy at Philadelphia



INTERCOLLEGIATE ATHLETICS

Athletic Board: COL. CHARLES J. BARRETT (*Chairman*), BRIG. GEN. MICHAEL S. DAVISON, COL. EMORY S. ADAMS, JR. (*Secretary*), COL. ELVIN R. HEIBERG, COL. JOHN R. JANNARONE.

Director of Athletics: COL. EMORY S. ADAMS, JR.

Coaches: Baseball and 150-pound Football, ERIC TIPTON. *Basketball,* TAYLOR LOCKE. *Cross Country and Track,* CARLETON CROWELL. *Football,* PAUL F. DIETZEL. *Assistants,* GEORGE J. TERRY, WILLIAM A. SHALOSKY, LARRY B. JONES, WILLIAM DOOLITTLE, TAD SCHROEDER, THOMAS B. CAHILL, CHARLES L. KLAUSING, JAMES J. VALEK, 1ST LTS. CHARLES E. LYTLE, WILLIAM G. ROWE. *Golf,* WALTER R. BROWNE. *Gymnastics,* THOMAS E. MALONEY. *Hockey,* JOHN P. RILEY. *Lacrosse,* JAMES F. ADAMS. *Pistol,* S/MAJ. H. L. BENNER. *Rifle,* S/MAJ. O. L. GALLMAN. *Soccer,* JOSEPH PALONE. *Squash and Tennis,* LEIF NORDLIE. *Swimming,* JACK RYAN. *Wrestling,* LEROY ALITZ.

Staff: Trainer, ED PILLINGS. *Publicity,* JOE CAHILL.

Intercollegiate athletics are supervised by the Athletic Board, which is appointed by and is directly responsible to the Superintendent. The intercollegiate athletic program is financed by the Army Athletic Association, a self-supporting and nonprofit organization consisting of approximately 12,000 graduates of the Military Academy. No Government funds are appropriated for equipment, maintenance, and operation of the vast intercollegiate athletic plant.

A total of 17 sports are included in a complex schedule that keeps nearly half of the Corps of Cadets actively engaged in competitive sports throughout the academic year. These sports are football (including 150-pound football), soccer, and cross country in the fall; basketball, indoor track, wrestling, swimming, gymnastics, hockey, rifle, pistol, and squash in the winter; and baseball, lacrosse, track, tennis, and golf in the spring.

Realizing the value of athletics to the Army, General Douglas MacArthur, who was Superintendent shortly after World War I, reorganized and strengthened the athletic system. "The training of the athletic field which," General MacArthur said, "produces in a superlative degree the attributes of fortitude, self-control, resolution, courage, mental agility and, of course, physical development, is one completely fundamental to an efficient soldiery."

Former President Dwight D. Eisenhower and Generals Omar N. Bradley and James A. Van Fleet are among the many distinguished wearers of the Army "A."

RELIGION

All cadets are provided a sound basic religious atmosphere. Each cadet must attend one of the weekly chapel services—Protestant, Catholic, or Jewish.

Protestant

Protestant services are held in the Cadet Chapel every Sunday during the academic year and out-of-doors during the summer months. The Reverend Theodore C. Speers, D.D., is the Chaplain, USMA, and is assisted by The Reverend James D. Ford. Mr. John A. Davis, Jr., is Organist and Choirmaster, USMA. The two regiments alternate in their attendance at the 8:50 and 11 a.m. services. Every Sunday a Holy Communion service is conducted according to the rites of the Episcopal, Lutheran, or Presbyterian Churches. On the first two Sundays of each month the early service is also a a service of Holy Communion. At the morning worship service the form of worship is nondenominational in character and follows a procedure approved by the larger Protestant communions. Among the religious activities in which cadets take part are the Cadet Chapel Choir of 150 voices; the West Point Church School of more than 600 children of the Post taught entirely by 150 cadet Church School teachers; the Cadet Chapel Acolytes; and a program of morning devotions, conducted every weekday at 6:30 a.m. in Mahan Hall.

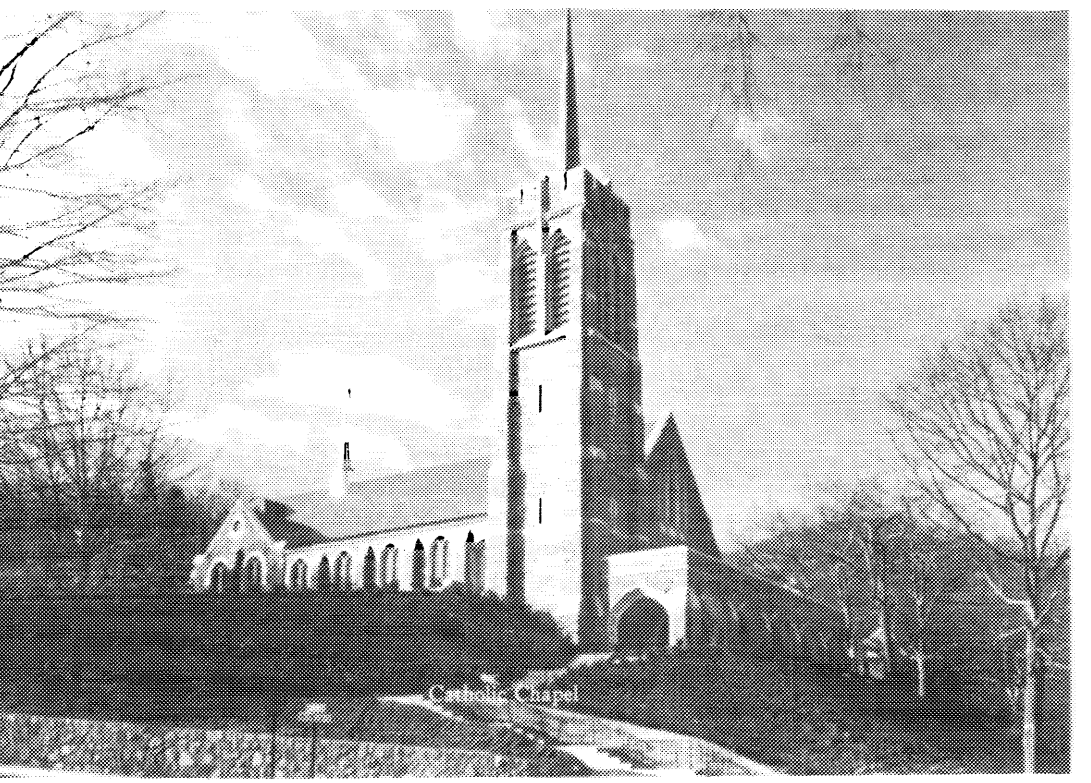
Catholic

Catholic cadets attend Holy Trinity Chapel, the Catholic Chapel on the Post. The Right Reverend Monsignor Joseph P. Moore is the Rector, and is assisted by The Reverend Robert F. McCormick. Catholic members of the two cadet regiments alternate in attending the 8 and 10:30 a.m. Masses to facilitate frequent reception of Holy Communion and to give opportunity for assisting at High Masses. The 10:30 a.m. Mass each Sunday is a Missa Cantata. A cadet Catholic choir sings at the High Masses and other liturgical ceremonies. Daily Mass is celebrated at 6:15 and 7 a.m. throughout the academic year. Confessions are heard on Saturday, daily at Mass times, and as desired. A cadet Cardinal Newman Forum

meets each week. By means of lectures, instructions and seminars, it treats of religion, morals, and philosophy.

Jewish

Jewish worship services are held in the Old Cadet Chapel every Sunday at 8 a.m. during the academic year and at 10:30 a.m. during the summer season. Rabbi Abraham Rudderman is the Jewish Chaplain. High Holy Day services are held for the cadets at the Vassar Temple, Poughkeepsie, N.Y., where the Jewish Chaplain serves as spiritual leader. Festival services are conducted in the Old Cadet Chapel and a special Passover service is held yearly at the U.S. Hotel Thayer. The Jewish Chapel Squad Choir sings the liturgical music at every service. The Jewish Cadets also participate in the reading of the liturgy and in the Torah service.



LECTURE PROGRAM 1962–1963

Lectures sponsored by the various activities at the Military Academy are supervised by the Dean of the Academic Board. In almost every case the lecture is an integral part of the course of instruction of the attending class or classes (shown in parentheses).

A list of the visiting lecturers for the academic year 1962–1963 is shown below.

DEPARTMENT OF EARTH, SPACE, AND GRAPHIC SCIENCES

Dr. John H. Heller, Director of New England Institute for Medical Research, "Man's Exploration of Space" (Fourth)

DEPARTMENT OF ELECTRICITY

Dr. Harold Jacobs, Deputy Director, Solid State and Frequency Control Division, Army Signal Research and Development Laboratory, Fort Monmouth, N.J., "Recent Advances in Solid State Electronics" (Second)

Col. W. C. Gribble, Jr., Director, Army Nuclear Power Program, Office Chief of Engineers, Washington, D.C., "The Army and Nuclear Power" (Second)

DEPARTMENT OF ENGLISH

Prof. William Gruen, Professor of Education; Chairman, Dept. of History and Philosophy of Education, New York University, "The Nature of Ethical Inquiry" (First)

Maj. Gen. Charles E. Saltzman (USAR), Partner, Goldman, Sachs and Co., New York City, "The Importance of Understanding our National Character" (Fourth)

DEPARTMENT OF FOREIGN LANGUAGES

Dr. Daniel P. Girard, Professor of French, Teachers College, Columbia University, New York, N.Y., "La vallee de la Loire" (Third—French)

Dr. Guido Brunner, Second Secretary, German Observer Group to U.N., "Der Gemeinsame Markt" (Third—German)

Professor Francis M. Rogers, Professor of Romance Languages, Harvard University, "Uma Viagem as Oriente Portugues" (Third—Portuguese)

Mr. Nicholas Fersen, Russian Instructor, Williams College, "Russian Literature" (Third and Selected Fourth Classmen—Russian)

Lt. Col. Herbert P. Winterhager, Assistant Military Attache, Embassy of the Federal Republic of Germany, "Deutsche und sowjetische Fuhrung" (Third—German)

DEPARTMENT OF LAW

Prof. Arthur E. Sutherland, Bussey Professor of Law, Harvard University Law School, "The Constitution and the Soldier" (Second)

Maj. Gen. Charles L. Decker, The Judge Advocate General, U.S.A., "Administration of Justice in the U.S. Army" (Second)

Mr. Louis Nizer, Author and Senior Partner, Phillips, Nizer, Benjamin, Krim and Ballon, New York, N.Y., "Criminal Law and Evidence" (Second)

Honorable Robert E. Quinn, Chief Judge, U.S. Court of Military Appeals, Washington, D.C., "Military Law" (Second)

DEPARTMENT OF MECHANICS

Dr. J. J. Cornish III, Head, Aerophysics Department, Mississippi State University, "Low Speed Flight" (Second and Selected Third Classmen)

Dr. J. P. Den Hartog, Professor of Mechanical Engineering, Massachusetts Institute of Technology, "Mechanical Vibrations" (Second and Selected Third Classmen)

Maj. Frank Borman, NASA, Manned Space Craft Center, Houston, Texas, "American Manned Lunar Exploration Program" (Second and Selected Third Classmen)

Dr. Wernher von Braun, Director, George C. Marshall Space Flight Center, NASA, Huntsville, Ala., "Our Future in Space" (Second)

Mr. Neil MacCoull, Columbia University (formerly Consulting Engineer, Texaco Research Center, Beacon, N.Y.) "The Practical Thermodynamics of the Automobile" (Second)

DEPARTMENT OF MILITARY ART AND ENGINEERING

Mr. John J. Hogan, Consulting Engineer, Portland Cement Association, "Reinforced Concrete Design" (First)

Dr. Jean Van Der Spek, Director, Belgian Atomic Energy Commission, "Civilian Aspects of Nuclear Engineering" (First)

DEPARTMENT OF ORDNANCE

Dr. Alexander Hammer, Mr. R. Ledoux, Mr. E. Jakubowski, Springfield Armory, Massachusetts, "Engineering Systems Analysis" (First)

Mr. Harold Stratton, Engineer, Rocketdyne Corp., "Liquid Rocket Engines" (First)

Dr. Joseph Sperrazza, Deputy Chief, Ballistics Research Laboratories, Aberdeen Proving Ground, Maryland, "Wound Ballistics" (First)

Mr. R. A. Liston, Chief, Land Locomotion Laboratories, Detroit Arsenal, Michigan, "Land Locomotion" (First)

Dr. William R. Lucas, Chief, Engineer Materials Branch, Marshall Space Flight Center, NASA, Huntsville, Ala., "Space Materials Engineering" (First)

Rear Admiral W. M. Masterson, Chief of Bureau of Naval Weapons, "Naval Ordnance Activities" (Selected First Classmen)

DEPARTMENT OF SOCIAL SCIENCES

Prof. John T. Dunlop, Professor of Economics, Harvard University, "The Role of Labor Unions in the U.S. Economy" (First)

Col. Lawrence J. Legere, Jr., Executive Office of the President, "Contrasting Styles in Security Policy Formulation" and "The President and the NSC: State and Defense" (Selected First Classmen)

Prof. Frank Tannenbaum, Professor Emeritus, Columbia University, "The Mexican Revolution" (Selected First Classmen)

Dr. Alain C. Enthoven, Deputy Assistant Secretary of Defense (Systems Analysis), "Defense as an Economic Problem" (Second)

Dr. Edward Katzenbach, Jr., Deputy Secretary of Defense for Education and Manpower, "The Military in the Nuclear Age" (First)

Mr. William F. Treiber, First Vice Pres., Federal Reserve Bank of New York, "Recent Federal Reserve Monetary Policy" (First)

Prof. Lewis Hanke, Professor of History, Columbia University, "Patterns of Change in Latin America" (Selected First Classmen)

Lady Barbara Ward Jackson, Radcliffe Graduate Center, Cambridge, Mass., "The Political and Economic Challenge to the West" (First)

Mr. Robert E. Osgood, School of Advanced International Studies, "Military Policy for the Atlantic Community" (Selected First Classmen)

Lt. Gen. Theodore Parker, Deputy Chief of Staff for Operations, U.S. Army, "Military Policy for the Sixties" (Selected First Classmen)

Honorable Norman Paul, Assistant Secretary of Defense for Manpower, "Defense Manpower Planning" (First)

Mr. Raymond L. Garthoff, Advisor, Department of State, "Soviet Views on the Military as an Instrument of Policy" (Selected First and Third Classmen)

Prof. Zbigniew K. Brzezinski, The Russian Institute, Columbia University, "The Soviet View of a Changing World" (First)

Dr. Henry Bund, Senior Vice Pres., Research Institute of America, "Government and Business in the American Economy" (Second and Selected Third Classmen)

Mr. Ray S. Cline, Central Intelligence Agency, "The Intelligence Community" (Selected First Classmen)

Prof. Lincoln P. Bloomfield, Massachusetts Institute of Technology, "The U.N. in U.S. Foreign Policy" (First)

Prof. Leo Gershoy, New York University, "The French Revolution" (Third)

Mr. Thomas O. Waage, Assistant Vice President, Federal Reserve Bank of New York, "Recent Federal Reserve Monetary Policy" (Second)

Prof. Stephen Lukashevich, University of Delaware, "Continuity and Change in Imperial Russia and the Soviet Union" (Selected First and Third Classmen)

Dr. William R. Emerson, Professor of History, Yale University, "Military Force as an Instrument of Policy" and "The Changing U.S. Strategic Response" (Selected First Classmen)

Prof. Stephen H. Fuller, Professor of Business Administration, Harvard University, "The Role of Labor Unions in the U.S. Economy" (Second)

Mr. William C. Sullivan, Federal Bureau of Investigation, Washington, D.C., "Communism in the U.S." (Second)

Dr. Lucian W. Pye, Massachusetts Institute of Technology, "Policies of Southeast Asia" and "Problems of Nation Building," (Selected First Classmen)

Dr. Leo Cherne, President, Research Institute of America, Inc., "America's Role in the World Economy" (First)

Honorable Robert V. Roosa, Undersecretary of the Treasury for Monetary Affairs, "The International Position of the Dollar" (First)

Honorable Harold Linder, President, Export-Import Bank of Washington, "Public International Assistance to the Developing Nations" (First)

Prof. Henry Graff, Professor of History, Columbia University, "U.S. Diplomacy 1919–1939" (Third and Selected First and Second Classmen)

Mr. John J. Powers, Jr., President, Pfizer International, Inc., "The Role of Private Foreign Investment in Developing Nations" (First)

Prof. Richard E. Neustadt, Professor of Government, Columbia University, "The Presidency" (Second)

Maj. Gen. A. J. Goodpaster, Jr., Special Assistant to the Chairman of the Joint Chiefs of Staff, "Military Strategy for the Sixties" (Selected First Classmen)

Mr. W. Howard Wriggins, Policy Planning Council, Department of State, "Current Political Trends in Ceylon" (Selected First Classmen)

Prof. Charles Frankel, Professor of Philosophy, Columbia University, "Rousseau and the Prospect for Democracy" (Selected First and Second Classmen)

Col. Richard L. Clutterbuck, British Army, "The Communist Defeat in Malaya" (Selected First Classmen)

Mr. Dean Acheson, Former Secretary of State, "The Political and Economic Strands of our Atlantic Alliance" (First and Second)

Prof. Daniel Bell, Columbia University, "Prospects for Political Economy" (Selected First and Second Classmen)

DEPARTMENT OF TACTICS

Mr. Sherman Kent, Chairman, Office of National Estimates, "Security" (First)

Maj. H. U. Bennan & Maj. J. A. Allen, U.S. Air Force, "U.S. Striking Forces—U.S. Air Force" (Third)

Capt. G. Macri, USN, Strike Forces Division, Chief Naval Operations "U.S. Striking Forces—U.S. Navy" (Third)

Col. Robert C. Taber, Assistant Director, Strategic Plans and Policy, "Strategic Mobility of Tactical Forces" (Third)

Col. John Lanterman, Chief, Eurasian Division, AC of S Intelligence, "Soviet Military Trends" (First)

Col. N. L. Carey, Chief, Technical Liaison Division, Research and Development, "Material Development Program Weapons Systems and Logistics" (First)

Col. Charles Davis, Mutual Security Division, "Military Assistance Program" (First)

1st Lt. R. Cox, Ft Bragg, N.C., and 1st Lt. W. Robucker, Ft Campbell, Ky., "Airborne and Ranger" (First)

Maj. Gen. Harvey J. Jablonsky, Chief, Officer Personnel Directorate, DCSPER, "Officer Assignments (Branch Orientation)" (First)

Maj. Gen. William B. Rosson, ACDSOPS for Special Operations, "Army Counterinsurgency Operations" (First)

Maj. Gen. Joseph Bernier, Chief, Dental Corps, U.S. Army (Second)

General Bruce C. Clark (Ret), "Leadership" (First)

Maj. Wm. J. Beck, Special Warfare Center, Ft. Bragg, N.C., "Army Counterinsurgency Operations" (First)

OFFICE OF MILITARY PSYCHOLOGY AND LEADERSHIP

Dr. Carl J. Lange, Director of Research, HUMRRO, Ft Benning, Ga., "Current Views on Psychology and Leadership" (Third)

Dr. A. S. Thompson, Teachers College, Columbia University, "Industrial Psychology Today" (Selected First Classmen)

Lt. Gen. Andrew T. McNamara, Director, Defense Supply Agency, "Management in the Military" (First)

Mr. Robert Powell, Industrial Education, Purdue University, "Creativity in Management" (First)

Dr. Chris Argyris, Professor of Industrial Administration, Yale University, "Human Relations and the Management of Men" (First)

Mr. R. G. Kopff, Manager, Executive Development, Celanese Corporation of America, "Executive Development" (First)

FACULTY LECTURERS

Dr. Robert F. Goheen, President, Princeton University, "American Higher Education and the New Nations"

Dr. Frank Bowles, President, College Entrance Examination Board, "Education in America, Russia, India, Africa"

EDUCATIONAL ACTIVITIES

The Military Academy offers varied opportunities for cadets who are interested in exploring fields of academic study on a broader or more intensive basis than is provided in the formal academic curriculum. Seminars, special guest lectures, discussion groups, student conferences, and intercollegiate debates are undertaken on cadet initiative and carried out primarily with cadet effort. The largest and most active organization in this field is the Debate Council and Forum whose members engage in intercollegiate debates and discussions in all parts of the United States during the academic year. This organization also sponsors voluntary seminars on public affairs topics in which cadets express an interest.

Student Conference on United States Affairs

Annually since 1949, West Point, with the assistance of private financial aid, has sponsored a Student Conference on United States Affairs, known as SCUSA. Outstanding students from about 90 United States and Canadian colleges and universities gather for a 4-day conference in early December with approximately 35 senior individuals from college faculties, business, and government. Meeting in small seminars, the participants discuss major aspects of U.S. National Security Policy and formulate policy recommendations. The Cadet Debate Council and Forum administers these conferences and acts as host. In addition to the cadets on the administrative staff and those actually participating in conference discussions, the first and second classes of the Military Academy attend the opening conference speech.

The purposes of these conferences are (1) to produce an informative examination and discussion of U.S. National Security Policy, (2) to provide an outstanding representation of college students with an appreciation of the complexities of government policy formulation, and (3) to broaden students' contacts with their contemporaries in an academic endeavor.

The principal speakers at the 12th through 14th conferences are given below:

SCUSA XII: 30 November–3 December 1960

THE HONORABLE NELSON A. ROCKEFELLER
Governor of the State of New York

Student Conference on United States Affairs

THE HONORABLE DEAN RUSK
Former President of the Rockefeller Foundation
Secretary of State

SCUSA XIII: 6–9 December 1961

THE HONORABLE JOHN J. MCCLOY
Former High Commissioner in Germany, Assistant Secretary of War, President of the World Bank, and Disarmament Advisor to the President
THE HONORABLE GEORGE C. MCGHEE
Under Secretary of State for Political Affairs

SCUSA XIV: 5–8 December 1962

THE HONORABLE DEAN ACHESON
Former Secretary of State
THE HONORABLE ALLEN DULLES
Former Director, Central Intelligence Agency

The National Debate Tournament

Annually, since 1947, the Debate Council and Forum has sponsored the National Debate Tournament which marks the culmination of national intercollegiate forensic activities for the academic year. For administrative purposes the United States is divided into eight debating districts, each headed by a chairman and a district committee. During the debating season approximately 600 colleges and universities compete within their respective districts in order to win 1 of 36 invitations to the national tournament held at West Point each spring.

After 2 days of seeding and semifinal rounds, two teams are selected to compete for the championship. The winner is awarded the Larmon Trophy, donated by Mr. Sigurd S. Larmon of Young and Rubicam, Inc., New York City. More than 150 teams, representing colleges and universities from all sections of the United States, have competed in the national tournament since its inception in 1947. U.S. Military Academy teams won the tournament in 1956 and placed second in 1957.

West Point Debate Council

The Debate Council, an activity within the Debate Council and Forum, sponsors an extensive program of forensic activities affording its members the opportunity of acquiring skills in public speaking and in the use of logic, and of using and perfecting these skills in

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tournament debating in competition with colleges and universities throughout the country. The Debate Council program for a typical year includes: seminars on debating techniques and the national debate topic, intrasquad practice debating, varsity and novice intercollegiate competition, high school audience debating, Fourth Class (freshman) tournament, an intramural tournament, and an extemporaneous speech contest.

Of particular interest are the varsity intercollegiate and high school audience debate programs. USMA varsity teams participate in the leading college debate tournaments (36 in 1961–62, involving over 380 debates with 160 colleges and universities). Through the caliber of its performance in major tournaments each year, West Point has achieved recognition as one of the leading schools in intercollegiate debating. In order to gain experience in speaking before large audiences and to encourage interest in debating, cadets compete each year against teams from leading universities before high school, college, and civic group audiences.

West Point Forum

This cadet organization, a part of the Debate Council and Forum, provides the cadet an opportunity to widen his intellectual interests. Each year the Forum presents a series of lectures by distinguished speakers. It also conducts seminars on a variety of topics to prepare cadets to participate in a large number of student conferences and model United Nations assemblies throughout the country. In 1962–63, cadets participated in conferences at such institutions as Texas A & M, Ohio State University, Principia College, and the Air Force Academy. The Forum sponsors educational trips each year to the United Nations and to Washington, D.C., to allow cadets to observe at first hand the operations of the United Nations and the major branches of our own Government.

Cultural Visits

To encourage cadets to broaden their cultural interests and to afford them the opportunity to become familiar with and enjoy some of the many cultural facilities of New York City, frequent trips are organized for groups of cadets to attend plays, concerts, opera, or ballet performances on Saturday evenings, as well as to visit museums on Sunday afternoons.

AWARDS AND DISTINCTIONS

Distinguished Cadets

In June of every year those cadets on the general merit roll of each class and on the graduating merit roll whose records show they have met the requirements set by the Academic Board are classed as "Distinguished." Distinguished cadets wear a five-pointed star, three-quarters of an inch in diameter, on each side of the collar of the dress coat and the full dress coat. The star is worn for one year by cadets who were distinguished in the work of the Second, Third, or Fourth Class year.

Unit Achievement Awards

SUPERINTENDENT'S AWARD (1958). Two plaques awarded to the cadet company in each regiment which is judged to be the most outstanding in all areas of cadet endeavor.

DEAN'S AWARD (1956). Two plaques awarded to the academically outstanding company in each regiment.

ARMY ATHLETIC ASSOCIATION AWARD (1958). Two plaques awarded to the cadet company in each regiment which has made the greatest contribution to the Corps Squad program through participation.

BANKERS ASSOCIATION OF NEW YORK AWARD (1924). Two plaques awarded to the cadet company in each regiment ranking first in intramural athletics. A silver cup, formerly awarded to the cadet company ranking first in intramural athletics, is also inscribed with the designation of the winning companies.

REGIMENTAL COMMANDER'S DRILL AWARD. Two plaques awarded three times each year to coincide with the three drill seasons to the cadet company in each regiment that is the most outstanding in drill and ceremonies.

GEORGE ALEXANDER CAMPBELL II MEMORIAL TROPHY (1949). Established by members of the Class of 1951 in memory of their classmate, Cadet Campbell, who died during yearling summer camp, this silver cup is awarded to the company winning the brigade championship in intramural basketball.

JARED WILLIAM MORROW MEMORIAL TROPHY (1951). Established by Capt. Gerald D. Hall, USMA 1944, in memory of Lt.

Jared William Morrow, USMA 1945, who died in battle in Korea in 1950, this silver cup is awarded to the company winning the brigade championship in intramural track.

Palmer E. Pierce Football Trophy (1943). This silver cup, originally awarded to Gen. Palmer E. Pierce, USMA 1891, by the National Collegiate Athletic Association in recognition of his services to the Association, and bequeathed by him to the Army Athletic Association, is awarded to the company winning the brigade championship in intramural football.

Arthur H. Truxes Memorial Trophy (1951). Established by Capt. Gerald D. Hall, USMA 1944, in memory of Capt. Arthur H. Truxes, Jr., USMA 1945, who died in battle in Korea in 1950, this silver cup is awarded to the company winning the brigade championship in intramural cross country.

Intramural Athletic Awards. Plaques are awarded to the companies winning the brigade championships in each intramural sport; smaller plaques are awarded to brigade runners-up.

Individual General Awards

Arthur M. Apmann Award (1952). A set of books presented by Col. Arthur M. Apmann in memory of his son, Lt. Arthur M. Apmann, Jr., USMA 1950, to the Editor of the "Howitzer."

Army Times Award (1956). A wrist watch presented in the name of the Army Times to the Editor of "The Pointer."

Association of the United States Army Award (1961). A wrist watch presented in the name of the Association of the United States Army to the cadet who best exemplified the traditions of the Military Academy and the United States Army.

Francis Vinton Greene Memorial Award (1929). A set of books given in memory of Maj. Gen. Francis Vinton Greene, USMA 1870, to the cadet standing number one in the general order of merit at graduation.

Military Order of World Wars Award (1942). A wrist watch presented to the graduating cadet who has made the greatest improvement since the completion of his fourth-class year.

Individual Military Awards

Charles G. Dawes Award (1929). The Pershing Sword, given in the name of the late Brig. Gen. Charles G. Dawes to the First Captain, to commemorate General Pershing's being First Captain of the Corps of Cadets in 1886.

Association of Graduates Awards (1942). A $100 series E bond presented by the Association of Graduates to the cadet in the Second Class and $50 series E bonds to the cadets in the Third and Fourth Classes outstanding in military efficiency and leadership.

The Knox Trophy (1910). A silver cup presented by the Sons of the Revolution in the State of New York to the cadet with the highest rating in military efficiency.

The General John J. Pershing Award (1948). A wrist watch given by the Army and Navy Union, USA, to the cadet with the highest rating in tactics.

The General Douglas MacArthur Award (1952). A pistol given by the Army and Navy Union (Department of New York) to the cadet officer commanding the First Regiment, USCC.

Army and Navy Union Ladies Auxiliary Award (1952). A pistol given by the Ladies Auxiliary of the Army and Navy Union (Department of New York) to the cadet officer commanding the Second Regiment, USCC.

Class of 1927 Award (1957). A wrist watch given by the Class of 1927, USMA, to the outstanding cadet company commander, First Regiment, USCC.

The Leadership Foundation Award (1962). A wrist watch given by the Leadership Foundation to the outstanding cadet company commander, Second Regiment, USCC.

Individual Academic Awards

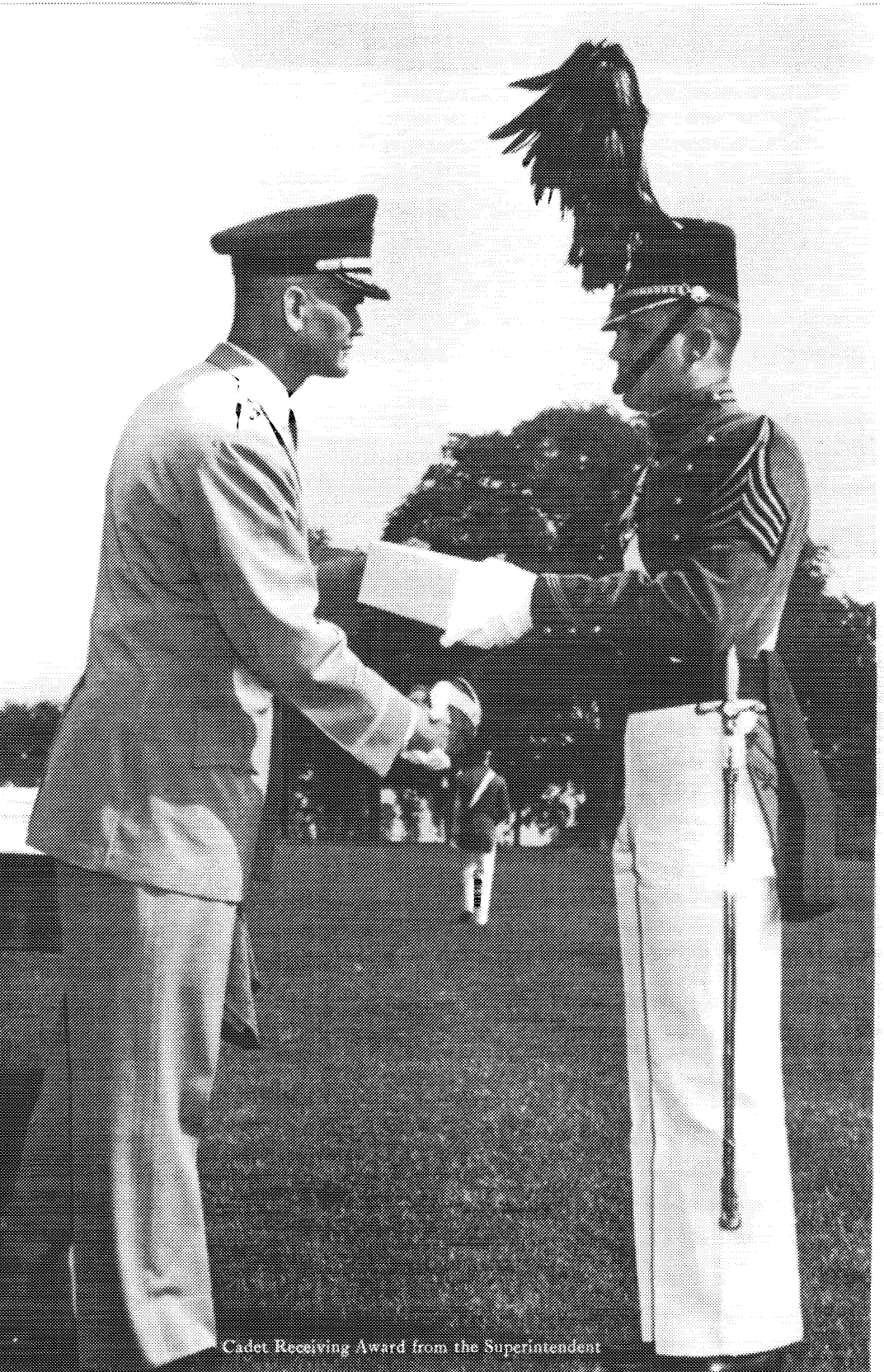
American Legion Award (1935). A stereo-phonograph given by the National Organization of the American Legion to the graduating cadet with the highest rating in chemistry.

Daughters of the United States Army Award (1962). A silver cigarette box given by the Daughters of the United States Army to the graduating cadet with the highest rating in advanced chemistry.

Intercollegiate Debating Award (1947). Two wrist watches given by the Consul General of Switzerland in the United States for excellence in intercollegiate debating.

Armed Forces Communications and Electronics Award (1948). A transistor radio given by the Armed Forces Communications and Electronics Association to the graduating cadet with the highest rating in electricity.

Colonial Daughters of the Seventeenth Century Award (1934). A set of books given by the National Society, Colonial Daughters of the Seventeenth Century, to the graduating cadet with the highest rating in English.



Cadet Receiving Award from the Superintendent

Ladies Auxiliary of the Veterans of Foreign Wars Award (1939). A pair of binoculars given by the Ladies Auxiliary of the Veterans of Foreign Wars of the United States to the graduating cadet with the highest rating in Fourth Class English.

Steuben Society of America Award (1936). A wrist watch given by the Steuben Society of America to the graduating cadet with the highest rating in foreign languages.

The U. S. Grant Award (1932). A wrist watch given by the Women's Relief Corps, Auxiliary to the Grand Army of the Republic, to the graduating cadet with the highest rating in graphics.

Sons of the American Revolution Award (1962). A pistol given by the National Society of the Sons of the American Revolution to the graduating cadet with the highest rating in advanced graphics.

American Bar Association Award (1941). A set of books given by the American Bar Association to the graduating cadet with the highest rating in law.

United Daughters of the Confederacy Award (1931). A saber, known as the Robert E. Lee Saber, given by the United Daughters of the Confederacy to the graduating cadet with the highest rating in mathematics.

Daughters of the American Revolution Award (1930). A portable typewriter given by the National Society, Daughters of the American Revolution, to the graduating cadet with the highest rating in mechanics of fluids.

The Clifton Carroll Carter Award (1962). A pistol presented in the name of Mrs. Mai C. Carter as a memorial to the late Brig. Gen. Clifton Carroll Carter, USMA 1899, to the graduating cadet with the highest rating in engineering mechanics.

General William A. Mitchell Award (1942). A set of books given by Mrs. William A. Mitchell in memory of General William A. Mitchell, USMA 1902, to the graduating cadet with the highest rating in military engineering and military history.

Daughters of Founders and Patriots of America Award (1942). A wrist watch given by the National Society, Daughters of Founders and Patriots of America, to the graduating cadet with the highest rating in military hygiene.

The Eisenhower Award (1951). A silver tray presented in the name of Mr. Charles P. McCormick to the graduating cadet for excellence in military psychology and leadership.

THE LESLIE R. GROVES AWARD (1957). A silver tray presented in behalf of the Association of Graduates to the graduating cadet with the highest rating in nuclear physics.

THE COLONEL JAMES L. WALSH MEMORIAL AWARD (1956). A rifle presented in the name of the American Ordnance Association to the graduating cadet with the highest rating in ordnance engineering.

THE 306TH INFANTRY AWARD (1954). A wrist watch given by the Walter B. Tunick Estate to the graduating cadet achieving excellence in physical education over the four-year course.

VETERANS OF FOREIGN WARS AWARD (1937). A camera given by the Veterans of Foreign Wars of the United States to the graduating cadet with the highest rating in physics.

MILITARY ORDER OF FOREIGN WARS AWARD (1929). A wrist watch given by the National Commandery, Military Order of Foreign Wars, to the graduating cadet with the highest rating in the First Class course in social sciences.

THE CLASS OF 1930 AWARD (1954). A silver bowl, presented in the name of the late Honorable Edgar Bromberger, former City Magistrate of the City of New York, to the graduating cadet with the highest rating in the Second Class course in social sciences.

DAUGHTERS OF THE UNION VETERANS OF THE CIVIL WAR AWARD (1958). A wrist watch given by the Daughters of the Union Veterans of the Civil War to the graduating cadet with the highest rating in topography.

Individual Athletic Awards

ARMY ATHLETIC ASSOCIATION TROPHY (1904). A silver plate with the Academy seal embossed at four places on the border is given by the Army Athletic Association to the cadet who has rendered the most valuable service to athletics during his career as a cadet.

THE GENERAL JOHN W. COFFEY MEMORIAL AWARD (1952). A silver plate given by Mrs. John W. Coffey in memory of Brig. Gen. John W. Coffey, USMA August 1917, to the captain of the baseball team.

THE EBER SIMPSON MEMORIAL TROPHY (1947). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 presented by Col. George Simpson in memory of his son, Capt. Eber Simpson, USMA June 1943, is given to the captain of the basketball team.

THE COLONEL DAVID MARCUS MEMORAL AWARD (1949). A silver plate with the Academy seal embossed at four places on the

border, purchased with the interest from a fund of $2,000 established in memory of Col. David Marcus, USMA 1924, is given to the outstanding boxer in the graduating class.

THE EASTERN COLLEGIATE ATHLETIC CONFERENCE AWARD (1959). The Eastern Collegiate Athletic Conference Merit Award is given to the graduating cadet excelling in athletics and scholarship.

THE EDGERTON AWARD (1908). A silver plate with the Academy seal embossed at four places on the border, purchased under the terms of a legacy presented by Mrs. Wright Prescott Edgerton in memory of her husband, Col. Wright Prescott Edgerton, USMA 1874, is given to the captain of the football team.

THE COLONEL THURSTON HUGHES AWARD (1939). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 presented by Col. Thurston Hughes, USMA 1909, is given to the most valuable player on the football team.

THE THOMAS WEST HAMMOND MEMORIAL AWARD (1958). A silver tray, presented in the name of Mr. Chester Hammond in memory of his father, Col. Thomas West Hammond, USMA 1905, is given to the outstanding lineman on the football team.

THE RINGSDORF AWARD (1961). A silver tray, donated by Cols. Samuel D. Ringsdorf, USMA August 1917, and Paschal H. Ringsdorf, USMA 1923, is given to the Army player who contributed most to the team effort in the Army-Navy football game.

THE COLONEL JOHN A. ROBENSON MEMORIAL AWARD (1961). A silver tray, presented in the name of Mrs. Abigail R. Boylan in memory of her father, Col. John A. Robenson, USMA 1910, is given to the outstanding player on the 150-pound football team.

THE PIERCE CURRIER FOSTER MEMORIAL TROPHY (1900). Two silver plates with the Academy seal embossed at four places on the border, purchased under the terms of the will of Mrs. Anna A. Foster in memory of her son, Pierce Currier Foster, USMA 1899, are given to the cadets ranking first and second in gymnastics.

THE HAL BEUKEMA MEMORIAL AWARD (1955). A silver plate, donated by members of the family, former and present officers in the Department of Social Sciences, USMA, and a group of former friends, in memory of Maj. Henry S. Beukema, USMA 1944, is given to the outstanding player on the hockey team.

INTRAMURAL. Winners of brigade individual sports contests such as track and cross country are awarded silver medallions; runners-up receive bronze medallions.

THE WILLIAM P. FICKES MEMORIAL TROPHY (1938). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund presented by Mr. and Mrs. Walter M. Fickes in memory of their son, William P. Fickes, USMA 1937, is given to the captain of the lacrosse team.

THE GENERAL GEORGE S. PATTON, JR., MEMORIAL TROPHY (1956). A pistol, presented by John M. McNally in memory of Gen. George S. Patton, Jr., USMA 1909, is given to the captain of the pistol team.

CLASS OF 1923 AWARD (1949). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 contributed by the Class of 1923, is given to the outstanding member of the swimming team in the graduating class.

THE FRED E. MCANIFF MEMORIAL AWARD (1961). A silver tray, presented by the West Point Chapter of the Society of the Daughters of the United States Army, is given to the outstanding member of the track team.

THE GENERAL WILLIAM L. BELL, JR., MEMORIAL AWARD (1957). A silver plate, presented by Mrs. William Lewis Bell, Jr., in memory of her husband, Maj. Gen. William Lewis Bell, Jr., USMA 1929, is given to the outstanding tumbler in the Corps.

SCHOLARSHIPS

Rhodes Scholarships

From 1923, when cadets of USMA first began to compete, to 1963, 45 Rhodes Scholarships have been awarded to Academy graduates who attended Oxford as Army or Air Force officers on active duty. Five graduates of the Military Academy are now at Oxford.

Elections for Rhodes Scholarships are held every year in December for entrance into Oxford in October of the following year. The scholarships are for a minimum period of 2 years study; a third year may be awarded if the Rhodes scholar presents a plan of study acceptable to his service and to the Rhodes trustees.

Cadets desiring to compete for a scholarship must be accredited by the Academic Board which screens them carefully. A Committee of Selection in each State recommends two candidates every year to a District Committee for six States. The District Committees each select four individuals from the candidates selected by the State committees. Candidates may apply either in the State in which they live or in the State in which they have recieved at least 2 years of their college education.

The basis of selection is that section of Cecil Rhodes' will in which are mentioned the four groups of desired qualities: (1) literary and scholastic ability and attainments; (2) qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship; (3) exhibition during school days of moral force of character and of instincts to lead and to take an interest in his schoolmates; (4) fondness for and success in manly outdoor sports such as cricket, football, and the like.

The selection is not made, however, on any system of averaging up a man's qualifications. The first two groups of qualities are most important and committees are particularly interested in distinction of intellect and character giving promise of outstanding achievement in later life.

Olmsted Scholarships

The George Olmsted Foundation currently awards annually two scholarships to graduates of the Military Academy for two years' study at a foreign university in other than an English speaking

country. These scholarships commence three years after graduation. The Foundation makes the selection from names submitted for consideration to the Department of the Army by the Academic Board. Selection criteria are scholastic, including linguistic ability, and traits of character and leadership demonstrated at West Point and in the military service after graduation. Universities presently attended by Military Academy graduates under this program include those of Geneva and Lyons.

National Science Foundation Fellowships

Since 1961 cadets have been permitted to compete for National Science Foundation Graduate Fellowships. These fellowships, which are awarded for periods of either nine months or one year, are open to graduates of all accredited institutions. Selection is based on academic records, recommendations regarding each applicant's ability, scores achieved in examinations designed to test scientific aptitude and achievement, and other evidence of potential ability for scientific study or work. In 1962 one cadet was awarded a fellowship and ten cadets received honorable mention; in 1963 five cadets were awarded fellowships and nine cadets received honorable mention.

THE LIBRARY

Librarian: Mr. Egon A. Weiss.
Chief, Readers' Services Division: Miss Thelma E. Bedell.
Chief, Technical Services and Acquisitions Division: Mr. William Kerr.
Chief, Archives and History Division: Mr. Joseph M. O'Donnell.
Archivist Assistant: Mr. Kenneth W. Rapp.
Reference Librarians: Miss Geraldine Armstrong, Interlibrary Loan; Miss Irene Feith, Periodicals and Documents; Mr. John A. Parker, Audio-Visual.
Catalogers: Mr. Richard Matthews, Miss Anna E. Pierce, Miss Marion B. Wellar.

The library contains about 215,000 books, exclusive of those volumes in 13 academic department libraries and those volumes in 24 small libraries in cadet barracks. In addition, the library subscribes to over 900 periodicals. It has microfilm readers, photographic duplicating, and other audio-visual services which include facilities for cadets to listen, individually or in groups, to linguistic materials, readings of plays and poetry, and music.

In 1961, Congress appropriated $4,222,000 for a new library building. The structure, scheduled for completion in 1964, will have an initial capacity of 350,000 volumes and seating space for over 700 readers. The building will incorporate facilities for individual research and audio-visual services. During the period of construction, interim library services are being provided in Thayer Hall, in Bartlett Hall, and in the Bryant E. Moore Wing, built in 1954.

The library book collection represents the first Federal library and antedates the founding of the Academy in 1802 by almost a quarter of a century. The first important additions to the library were in 1815 when Maj. Sylvanus Thayer, Superintendent, 1817–1833, on an official trip to Europe was authorized by Secretary of War James Monroe to use this opportunity to buy military, scientific, and engineering works for the Military Academy. Major Thayer bought about 1,000 volumes.

The library is similar to that of a liberal arts college, save that it contains a large proportion of mathematical, scientific and technical works, and has a complete military section. The collection of standard literary works is good; and that of eighteenth and nineteenth century periodicals is unusually representative. The library's broad coverage in the field of military art, history, and technology make it a prototype of a national military library.

The manuscript and archival collection is extensive, and deals principally, though by no means exclusively, with the United States Army, the Military Academy, and persons of the military profession. The collection of early American military art imprints is unique. The library is rich in both original and secondary sources dealing with the history of the Hudson Highlands.

The Archives and History Division maintains extensive cadet and Military Academy administrative records and conducts a historical program relating to the Military Academy and West Point.

The facilities of the library are available to research scholars and writers. It is open from 8:00 a.m. to 9:30 p.m. during weekdays; from 8:00 a.m. to 6:00 p.m. on Saturdays, and from 2:00 to 6:00 p.m. on Sundays and holidays.

THE WEST POINT MUSEUM

Director: Mr. Frederick P. Todd, B.S.
Curator of History: Mr. Gerald C. Stowe, B.S.
Curator of Art: Mr. Richard E. Kuehne, B.A.
Curator of Design: Mr. Ray W. Moniz, B.F.A.
Assistant Curator of Design: Mr. James H. Kinsley, Jr.

The West Point Museum is located in Thayer Hall, occupying the first and second floors of the southwest portion of this academic building. Its galleries and special displays are open without charge to the public throughout the year, every day of the week, from 10:30 a.m. to 4:30 p.m. The Museum is closed only on Christmas and New Year's Day.

Adjacent to the public galleries are the storage and research rooms maintained by the Museum to carry out its primary duty as a college museum by supporting the academic and military education of cadets of the Military Academy. To this end it maintains a continuous series of changing exhibits in cadet areas, arranges lectures and demonstrations, and opens its collections for loans to instructors and cadets. To this end also it maintains a considerable display of portraits and paintings, battle flags and other exhibits in various buildings on the post. Some of these paintings and flags can be seen by the public in the Library, the Cadet Chapel, and in Grant Hall.

The West Point Museum was established in 1854 but its collections actually date back to 1777. After the Battle of Saratoga in October of that year, much of the ordnance captured from the British was sent to West Point. A little later, part of the famous Great Chain stretched across the Hudson at West Point to bar navigation of the river to British men-of-war was stored here.

Throughout the first half of the 19th century the custom of sending trophies of war and objects of national historic interest to the Military Academy was maintained. In 1843, for example, the Secretary of the Treasury presented West Point with a brass culverin 6 pounder that had been given to the Continental Congress by Lafayette. After the close of the Mexican War in 1847, Gen. Winfield Scott sent large numbers of captured flags, cannon, and other war trophies to the Military Academy.

In 1848, the Secretary of War formally directed in the name of the President that West Point be the "depository of the trophies of the successful victory of our arms in Mexico." The authorities realized that permanent provision was needed for the ever-growing collections, and in 1854 they officially created the Ordnance and Artillery Museum, and established it on the third floor of the Academy, a building erected in 1838 on the site of the present East Cadet Barracks. Custodianship of relics, however, was not the new museum's only mission; for most of the next century it served as the laboratory for cadet instruction under the Department of Ordnance.

In 1909 the Museum was moved to the Administration Building where it remained until 1958. It was removed from the Department of Ordnance in 1948 and placed on an independent status. A full-time director was appointed in 1949 and given a professional staff.

The West Point Museum has probably the largest collection of military items in the Western Hemisphere. Unlike most military museums the story it tells is not confined to a national scene. One gallery is devoted to the development of military institutions and the art of war from the days of the Romans until the present; while others deal with ordnance, logistics, medals and decorations and kindred aspects of the military history of the Western World. The visitor is introduced to the important developments in tactics, to the Great Captains of History, and to the everyday life of the soldier. He is given to understand something of the impact on warfare of such historic events as the Industrial Revolution and nuclear fission.

The visitor's understanding of such matters is heightened by an extensive use of dioramas and full scale models. The visitor can, for example, stand behind a palisade of the days of the Indian Wars in America, or walk through a portion of a World War I trench. He can view episodes in important battles from Cynoscephalae in the year 197 B.C. to Gettysburg of 1863. In keeping with developments in other American museums, the West Point Museum has endeavored to fulfill its historical mission by treating, in part at least, with intangible cultural concepts and movements as well as with tangible objects.

BUILDINGS AND GROUNDS

The military reservation at West Point consists of 16,011 acres. The original purchase of 1,770 acres was made from Stephen Moore in 1790; additional purchases made in 1824, 1879, 1889, 1903, 1905, and 1909 brought the acreage to 3,570.

From 1938 to 1945 the acreage was more than tripled by the acquisition of 11,401 acres to allow for the development and expansion of training facilities. On 1 December 1959 a gift of 1,040 acres by Mr. and Mrs. Gene Leone increased the holdings to the present total.

Of this total, 2,520 acres are the Post proper; they comprise the area lying south of Storm King Mountain between the old Storm King Highway and the Hudson River. Access to the Post proper is by three gates: the Thayer Gate (South Gate), from Highland Falls; the Lee Gate (North Gate), from the old Storm King Highway (Route NY 218); and the Washington Gate (West Gate), from the new Storm King Highway (Route US 9W).

The expansion since 1938 has been toward the west almost as far as Central Valley, N.Y., and toward the south almost as far as Route US 6. Route NY 293 runs from southwest to northeast on about the midline of the entire reservation.

Buildings

ADMINISTRATION BUILDING (1909). Designed by Cram, Goodhue, and Ferguson in Gothic style. It is located on Thayer Road and contains the offices of the Superintendent, the Dean, the Academic Board, the General Staff, the Director of Admissions and Registrar, and the Information Office. The USMA Archives also occupy a portion of the building.

BARTLETT HALL (1913, 1938). Formerly the East Academic Building, it is named in memory of Col. William H. C. Bartlett, Professor of Natural and Experimental Philosophy, 1836–1871. The original building, 1913, was designed by Cram Goodhue, and Ferguson; the east wing, 1938, by Paul Philippe Cret. Both are in Gothic style. Located between Thayer and Cullum Roads, north of the Administration Building. In addition to classrooms and labora-

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tories it contains the offices of the Departments of Electricity, Mechanics, and Physics and Chemistry.

CADET CHAPEL (1910). Designed by Cram, Goodhue, and Ferguson in Gothic style. Located west of, and 300 feet above, the cadet barracks, it dominates the Post proper. The stained glass window over the altar has 27 panels, each depicting a militant Biblical character. The window at the entrance pictures The Revelation of St. John the Divine; it shows also the designs of the Medal of Honor and the Distinguished Service Cross. The windows in the nave are gifts of the several classes; the flags hanging in the nave were used in the War of 1812, the Mexican, Civil, and Spanish-American Wars. The Chapel Organ is the largest church organ in the Western Hemisphere, and contains over 14,000 pipes. The seating capacity is 1,500.

CENTRAL BARRACKS (1851, 1882, 1921). The designers of the 1851 and 1882 sections are not known, although it is likely that Maj. Richard Delafield had much to do with the design of the 1851 section and a Board of Engineers with the 1882 section. Capt. A. B. Proctor, Quartermaster Corps, designed the 1921 section. All are in Tudor style. The three sections form the three sides of a rectangle of which the East Barracks, located at Thayer and Jefferson Roads, forms the fourth side. The headquarters of the Commandant of Cadets is in a wing at the eastern end of the south section.

CHAPEL OF THE MOST HOLY TRINITY (1900). Designed by Heins and La Farge in Gothic style. Located at Mills and Washington Roads, on a sharp rise of ground, this Roman Catholic chapel is a copy of the St. Ethelreda Carthusian abbey parish church in County Essex, England. The Chapel, expanded in 1958 according to plans prepared by architect Alfred Reinhardt, now has a seating capacity of 550.

CULLUM MEMORIAL HALL (1899). Designed by McKim, Mead, and White in Greco-Roman style. Located on the east side of Cullum Road, across from Doubleday Field, and named after Major General George W. Cullum, USMA 1833, Superintendent 1864–1866, who gave it to house trophies of war and "statues, busts, mural tablets, and portraits of distinguished deceased officers and graduates of the Military Academy."

EAST BARRACKS (1895). Formerly the West Academic Building, located on Thayer Road opposite Bartlett Hall designed by Richard M. Hunt in Gothic style. It was converted to cadet barracks in 1958–1959.

FIELD HOUSE (1939). Designed by Paul Philippe Cret. Located on Tower Road southwest of the West Shore Railroad. Used for indoor athletics and graduation ceremonies.

FIRST CLASS CLUB, or THE COMPOUND (1837). Benton, Benet, Crozier Halls, formerly known as the Ordnance Compound, named for Colonel James G. Benton, USMA 1842, first Professor of Ordnance and Gunnery; for Major General Stephen Vincent Benet, USMA 1849, the second Professor of Ordnance and Gunnery; and for Major General William Crozier, USMA 1876, a Chief of Ordnance, serves as an activity center for First Classmen and their guests.

GRANT HALL (1931). A wing of the South Barracks on Thayer Road directly across from the Administration Building. It is the cadet reception hall and contains the office of the cadet hostess.

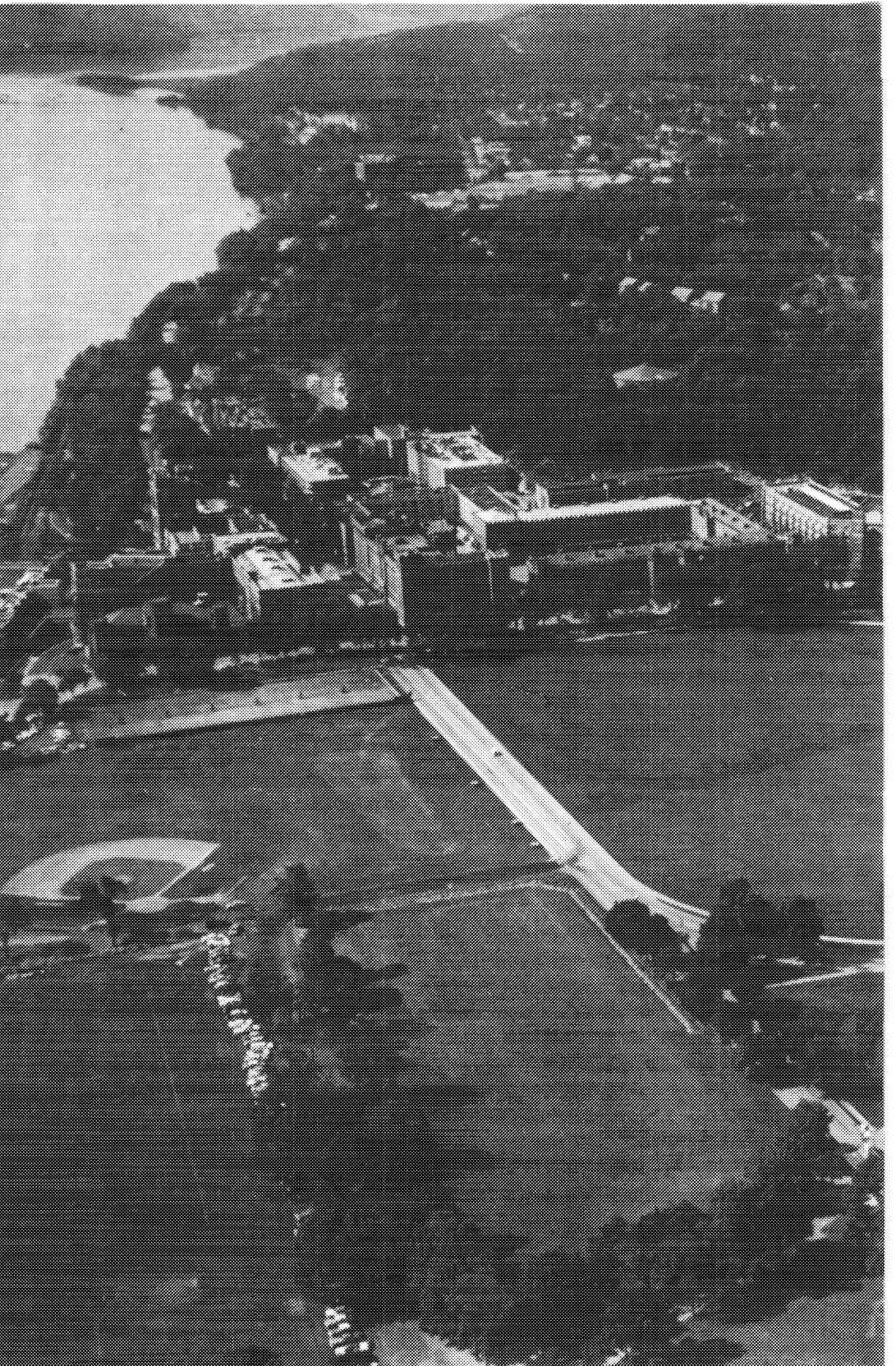
GYMNASIUM (1910, 1933, 1937, 1947). The East Gymnasium (1910) was designed by Cram, Goodhue, and Ferguson; the North Gymnasium (1933) by the Quartermaster Corps; the West Gymnasium (1937) by Paul Philippe Cret; and the Central Gymnasium (1947) by Delano and Aldrich. All are in Gothic style. The gymnasium buildings are west of the Superintendent's quarters and north of New North Barracks.

HOSPITAL (1923, 1934, 1960). New buildings were constructed in 1923, William Gehron, architect, and in 1934, York and Sawyer, architects; extensive alterations were done in 1960. Located on the west side of Thayer Road, south of New South Barracks.

LAUNDRY (1956). Designed by John and Drew Eberson; located in the north portion of Post off Washington Road near Washington Gate.

LIBRARY (1841, 1900). Designed by Maj. Richard Delafield in Tudor style. Located at Jefferson and Cullum Roads, it was intended originally to house Post Headquarters, the Department of Natural and Experimental Philosophy, and the Astronomical Observatory. The central tower was surmounted by a traveling dome, resting on six 24-pound cannon balls that turned in cast-iron grooves. In 1901 the building was remodeled to adapt it to library purposes. This building is being replaced by a new library building.

NEW SOUTH BARRACKS (1961). Designed by O'Connor and Kilham, in Gothic style. The new barracks, consisting of two buildings, are located on the site formerly occupied by the north wing of the Hospital. When completed in July 1962 they will permit the Corps, for the first time in 40 years, to be housed two cadets per room.



Aerial view of West Point

New North Barracks (1939). Designed by Paul Philippe Cret in Gothic style. Located south of the gymnasium and west of North Barracks. Sometimes called West Barracks.

Non-Commissioned Officers' Mess (1958). Located in the north portion of the Post off Washington Road, it was designed by Greenberg and Ames.

North Barracks (1908). Designed by Cram, Goodhue, and Ferguson in Gothic style. Located at Jefferson Road and Scott Place. The chaplain's office is on the ground floor in the southeast corner.

Old Cadet Chapel (1837). Architect unknown. Designed in Greco-Roman style. It was located originally where Bartlett Hall now stands; in 1911 it was moved to its present site at the entrance to the cemetery. The American artist, Robert W. Weir, professor of drawing at the Academy from 1834 to 1876, painted the mural, entitled "War and Peace", on the wall behind the alter. The chapel is used now for funeral services, and for Jewish religious services. The seating capacity is about 450.

Ordnance Automotive Laboratory (1939). Designed by Paul Philippe Cret in Gothic style. Located on Howard Road.

Post Chapel (1944). Constructed from a standard design used during World War II for chapels erected on military reservations. Located between Merritt Road and Biddle Loop. The seating capacity is about 325.

Power House (1909, 1945, 1947). The original building was designed by Cram, Goodhue, and Ferguson in Gothic style; the alterations of 1945 and 1947 were done by the Engineer Corps. Located just south of Thayer Hall on Cullum Road.

Smith Rink (1931). The indoor ice-skating rink, located on the east side of Mills Road south of the reservoir. It is named after Maj. Gen. William R. Smith, USMA 1892, Superintendent 1928–1932.

South Barracks (1931). Designed by William Gehron in Gothic style. Located at the southwest corner of Thayer and Brewerton Roads.

Superintendent's Quarters (1820). Architect unknown. Designed in Colonial style, and located on Jefferson Road. Col. Sylvanus Thayer was the first Superintendent to live there. Directly to the north are the Commandant's Quarters at the southwest corner of Parke and Washington Roads.

Thayer Hall (1958). This is an entirely new structure, built within the walls of the old Riding Hall. The building, designed by

Gehron and Seltzer of New York, is of structural steel framing with reinforced concrete, completely air conditioned, and practically windowless. Besides administrative space for the Departments of English, Foreign Languages, Law, Mathematics, Military Art and Engineering, Military Psychology and Leadership, Ordnance, and Social Sciences, it includes 98 classrooms, two 200-seat writ rooms, two 200-seat map-problem rooms, an 800-seat auditorium, a 1,500-seat auditorium, a materials testing laboratory, and space on the first and second floors for the Museum which was formerly in the Administration Building. Roof parking for 200 automobiles also has been provided.

United States Hotel Thayer (1926, 1948). Designed by Caugey and Evans in Tudor style. Located on the east side of Thayer Road just north of the Thayer Gate. It is owned by the Government. Including the addition completed in 1948, there are accommodations for 500 guests.

Utilities Building (1935). Designed by the Quartermaster Corps in Tudor style. Located at Ruger and Tower Roads. It contains the Post Exchange and the Commissary; and the offices of the Engineer, the Quartermaster, and the Transportation Officer.

Washington Hall (1929). Designed by William Gehron in Gothic style. Located on Jefferson Road between Central Barracks and North Barracks. It is the Cadet Dining Hall, and has a seating capacity of 2500. The offices and drafting rooms of the Department of Earth, Space, and Graphic Sciences are on the fifth floor.

West Point Army Mess (1903, 1963). The official name of the Officers' Club. Designed by McKim, Mead, and White in Classic style. Located on Cullum Road, south of Cullum Hall.

Monuments

Air Cadet Memorial (1944). Located on Mills Road at the north end of Lusk Reservoir. Erected by members of the Classes of '43, '44, and '45 to the memory of Air Cadets of the Academy who lost their lives while undergoing flying training.

Battle Monument (1897). Designed by Stanford White, executed by Federick MacMonnies. Located at Trophy Point at the northern limit of the Plain, and a little to the west of Washington Monument. It is dedicated to the memory of soldiers and officers of the Regular Army killed in action in the Civil War.

Drinking Fountain (1957). Located at the corner of Thayer and Jefferson Roads, it was presented to the Academy by the Class of 1915.

French Cadet Monument (1919). Presented by the cadets of L'Ecole Polytechnique. Located on The Parade directly opposite Central Barracks.

Kelleher-Jobes Memorial Arch (1939). Located at the north entrance to Flirtation Walk; erected by the Class of 1941 in memory of two outstanding athletes, Cadets William P. Kelleher and Charles S. Jobes, who died during their Third Class year.

Kosciuszko Monument (1828). Designed by John H. Latrobe, USMA 1822. Located to the north of Fort Clinton. Given by the Corps of Cadets in honor of Col. Thaddeus Kosciuszko, who helped plan the fortifications at West Point during the Revolutionary War.

Patton Mcnument (1950). Dedicated to the memory of Gen. George Smith Patton, Jr., USMA 1909, and presented by the officers and men of the units he commanded. Located across Jefferson Road from the Library.

Robinson Memorial (1940). Located on Mills Road, west of gymnasium, in memory of Col. Wirt Robinson, Professor of Chemistry, Mineralogy, and Geology.

Sedgwick Monument (1868). Dedicated to the memory of Maj. Gen. John Sedgwick, USMA 1837, killed at Spotsylvania, 1864. Made from cannon captured by his corps, it is located at the northwest corner of The Parade.

Sheridan Memorial (1932). Located on Flirtation Walk, in a small cove northwest of Gee's Point. Erected by the Corps of Cadets in honor of Cadet Richard Brinsley Sheridan, Jr., who was fatally injured on the gridiron of Yale Bowl, 24 October 1931.

Thayer Monument (1883). Dedicated to Col. Sylvanus Thayer, the "Father of the Military Academy." Located on The Parade directly across from the entrance to Washington Hall.

Washington Monument (1916). Located in the circle at the corner of Cullum and Thayer Roads. It is a replica of the Washington Monument in Union Square, New York City.

Grounds

Camp Buckner (1945). The summer training camp for the Third Class, located on the reservation five miles southwest of the Post proper, and known formerly as Camp Popolopen. Renamed in honor of Lt. Gen. Simon Bolivar Buckner, USMA 1908, killed at Okinawa in 1945.

CEMETERY (1816). Located at Washington and Ruger Roads. Among others, it contains the graves of Margaret Corbin, Revolutionary War heroine, and of Generals Scott, Custer, and Goethals.

CLINTON FIELD. Located immediately north of Doubleday Field and west of Fort Clinton. The name of the field derives from the Fort, named for a Revolutionary War general. Clinton Field was the site of the cadet's summer encampment from 1819 to 1942. It is used now for soccer, football, and lacrosse.

CONSTITUTION ISLAND. Donated to West Point in 1909 by Mrs. Russell Sage and Miss Anna B. Warner. About 280 acres, it is located opposite the north area of the Post proper. One end of the Great Chain, stretched across the Hudson to obstruct British navigation of the river during the Revolutionary War, was anchored in Martelaer's Rock, at the western point of the island.

DELAFIELD POND. The outdoor swimming pool, located on Delafield Road. Named after Maj. Gen. Richard Delafield, USMA 1818, Superintendent, 1838–1845 and 1856–1861.

DOUBLEDAY FIELD (1939). Baseball field, located between Thayer and Cullum Roads, east of The Parade. Named in honor of Maj. Gen. Abner Doubleday, USMA 1842, who is said to have laid out the first modern baseball diamond at Cooperstown, N.Y., in 1839.

FLIRTATION WALK. A foot trail extending three-quarters of a mile along the river from Cullum Road to Battle Monument and open only to cadets and their guests. It is probable that the early Chain Battery Walk is now included in Flirtation Walk.

FORT CLINTON (1778). Designed and begun by Lt. Col. Louis de la Radiere and completed by Col. Thaddeus Kosciuszko. Located at Cullum Road and Clinton Place. Originally called Fort Arnold, but after Arnold's treason in 1780 was renamed Fort Clinton, after Gen. George Clinton.

FORT PUTNAM (1778; partly restored, 1907–10). Designed by Col. Thaddeus Kosciuszko and built by troops of Gen. Rufus Putnam. It is located on Mount Independence, 451 feet above tidewater, and is reached by foot trail from Mills Road.

GREAT CHAIN. The chain stretched across the Hudson from just north of Gee's Point to Martelaer's Rock on Constitution Island to obstruct navigation of the river by the British during the Revolutionary War. It was fastened in place on 11 April 1781. A number of the links are at Trophy Point.

HOWZE FIELD. Located directly south of Michie Stadium, and bounded by Mills Road on the east, by Howze Place on the south,

and by Delafield Road on the west. A large recreation field, it was named in honor of Maj. Gen. Robert Lee Howze, USMA 1888, Commandant of Cadets, 1905–1909.

Lusk Reservoir (1898). One of the water supply reservoirs for West Point. It is located on Mills Road directly across from Michie Stadium, and has a capacity of 89,000,000 gallons.

Michie Stadium (1924). The football stadium, between Delafield and Mills Roads, west of the reservoir. Named for 1st Lt. Dennis Mahan Michie, USMA 1892, captain of the first West Point football team, killed in action at San Juan, Cuba, in 1898. The seating capacity is about 29,500.

The Parade. The drill and parade field, bounded by Jefferson Road on the south and west, by Thayer Road on the east, and Washington Road on the north.

The Plain. That portion of the ground embracing The Parade, Clinton Field, and Doubleday Field.

Shea Stadium (1958). Track and field stadium, located northwest of the Field House. Named for Lt. Richard Thomas Shea, Jr., USMA 1952, captain of the 1952 track and field teams, star athlete and record holder, killed in Korea in 1953 and posthumously awarded the Medal of Honor.

Stilwell Dam and Stilwell Lake (1949). Located on the reservation about four miles southwest of the Post proper. Named in honor of Gen. Joseph Warren Stilwell, USMA 1904, Commanding General U.S. Forces China-Burma-India 1942–1944, and Commanding General U.S. Tenth Army 1945.

Trophy Point. A small plot of ground located north of The Parade where are grouped many trophies captured in war by American forces. Several links of the Great Chain are there.

ADMISSION

General

In one major respect the requirements for admission to the Military Academy differ from the normal requirements for admission to a civilian college or university: a prospective candidate must first obtain a nomination from an authorized nominating source before he is permitted to be examined for entrance to the Academy.

A young man who is interested in pursuing a career in the military service and who wants to build this career on a West Point education should review the various sources of nomination to the Academy, as explained in the section on Nominations, and determine which sources are authorized to nominate him. The great majority of nominations (85 percent) are available from Members of Congress for residents of their States or Districts, but an applicant should also determine whether he is eligible to apply for nomination in one of the competitive categories.

Admission to The United States Military Academy is discussed under four topics:

1. *Requirements.* A prospective candidate should fulfill the basic requirements for admission and the recommended academic preparation.

2. *Nomination.* A prospective candidate should obtain a nomination from an authorized nominating source.

3. *Examinations.* A candidate should take the required entrance examinations in accordance with instructions supplied to all candidates by Headquarters, Department of the Army, and the Director of Admissions and Registrar, USMA.

4. *Appointment.* A candidate will receive notification from Department of the Army of qualification and appointment to fill the vacancy for which he was nominated.

Requirements

In order for a young man to be eligible for appointment to the Military Academy, he must meet the following general requirements:

Age. On 1 July of the year he is to be admitted, a candidate must have attained the age of 17 years and must not have reached

New Cadets Reporting

the age of 22. The age requirements for all candidates are statutory and cannot be waived.

Citizenship. United States citizenship is an absolute requirement for appointment to the Military Academy except for students appointed as foreign cadets.

Marital Status. A candidate must never have been married. A cadet may not marry until he has graduated from the Academy; if any cadet is found to have been married, he will be immediately separated from the Academy.

Character. Each candidate's record must show positive evidence that he is responsible, trustworthy, emotionally stable, and of good moral character.

Potential Leadership. Each candidate's record should include information concerning the effectiveness of his personality and the extent to which he has participated in school and community affairs.

Motivation. A candidate should have a strong desire to become a cadet and pursue a military career. Experience has indicated that lack of motivation frequently results in failure to remain at the Academy.

Physical Condition. A candidate must be physically fit. It is recommended that the prospective candidate consult with his private doctor and dentist to determine whether he meets the medical considerations as outlined in appendix I.

Prior Education. A candidate should have satisfactorily completed a college-preparatory secondary-school education or its equivalent by the time he enters the Academy and must show by his scholastic record that his preparation, as outlined below, is adequate. Every candidate must submit his entire scholastic record.

ACADEMIC PREPARATION

The kind and amount of preparation a candidate brings to the Academy are of vital importance to his successful pursuit of the academic courses at West Point. Once the academic year begins, the pace is rapid and basic knowledge of fundamental secondary-school subjects is assumed. A well-prepared cadet, therefore, finds himself in an enviable position.

The majority of candidates admitted to the Military Academy enter directly from secondary schools. Those who have graduated in the top portion of their high-school classes and have attained good grades in their mathematics and English courses should be able

to qualify academically for admission. Experience has shown that in order to pursue successfully the academic courses at the Military Academy, it is essential that a candidate should have completed 4 years of English, at least 3 years of mathematics but preferably 4, 2 years of a foreign language, a year of laboratory science, and a year of United States History. The candidate's scholastic record must show adequate preparation in these respects in order for him to qualify for admission. Furthermore, his preparation should include additional courses in the mathematical sciences and the humanities.

Candidates unable to obtain appointments for admission to the Military Academy immediately following graduation from secondary school are encouraged to attend a civilian college or university pending receipt of an appointment to West Point. The undergraduate courses taken by the candidate should be substantial ones which will further prepare him for the rapid pace and high standards of academic accomplishment that are required at West Point.

For the guidance of prospective candidates and their counselors the recommended preparation in English, mathematics, foreign languages, sciences, and United States History is shown in the following paragraphs.

ENGLISH—COMPOSITION

Grammar, spelling, and punctuation.

Types of paragraphs and methods of developing paragraphs.

Organization of themes.

The techniques of summarizing.

Methods of research and use of the library.

Practice in speechmaking.

ENGLISH—LITERATURE

Ability to read with reasonable speed and good comprehension.

Familiarity with major patterns of writing, such as the essay, the drama, the short story, and the novel.

Some acquaintance with poetic forms, such as epic, narrative, dramatic monologue, ode, and sonnet.

Some familiarity with meter, stanza forms, and figures of speech.

Acquaintance with several plays of Shakespeare.

Some knowledge of representative English and American writers.

MATHEMATICS—GENERAL

In order to succeed in mathematics at USMA, it is essential that the candidate have completed at least 3 years of college preparatory

mathematics to include algebra, geometry, and trigonometry as outlined below. A candidate's scholastic record will not be considered qualifying for admission (see page 117) if it is deficient in any of the foregoing respects. It is especially important that the USMA applicant be studying mathematics in the year of school immediately preceding his intended enrollment at West Point, as this will facilitate his rapid adjustment to the demanding requirements at the Academy. A fourth year of college-preparatory mathematics is urged for all who have the opportunity for such instruction in their precollege academic training. Moreover a fourth year is *essential* for those who wish to study mathematics at West Point beyond the minimum required for graduation: see page 16 for comments pertaining to the Advanced Studies Program.

The necessary scope of preparation in algebra, geometry, and trigonometry is given in the following sections:

MATHEMATICS—ALGEBRA

Emphasis in this area is placed on the following qualifications: (1) firm grounding in basic concepts and definitions; (2) a facility with basic techniques; and (3) the ability to apply logical analysis to the solution of problems. The candidate should be prepared in the following:

Applications of the fundamental operations.

Special products and factors.

Operations with fractions.

Radicals; fractional and negative exponents.

Systems of linear and quadratic equations.

Rectangular coordinates; the graphing of linear and quadratic equations in one and two variables.

Ratio, proportion, variation.

Common logarithms and applications.

Progressions, arithmetic and geometric.

The binomial theorem; the binomial formula with fractional and negative exponents.

Mathematical induction.

Elementary numerical trigonometry.

MATHEMATICS—GEOMETRY

As with algebra, careful preparation in the fundamentals of plane geometry and selected topics from solid geometry is necessary. The candidate should possess: (1) a knowledge of the basic concepts, definitions, and theorems of plane geometry; (2) an acceptable

understanding of the nature of direct and indirect proof, and a facility with careful deductive reasoning as evidenced by his ability to prove standard theorems; (3) familiarity with the geometric properties of common plane figures; (4) a knowledge of spatial relationships, particularly those pertaining to lines and planes in space; and (5) familiarity with the definitions and geometrical properties of prisms, pyramids, cylinders, cones and spheres. The candidate should be prepared in the following:

Congruency theorems, and related theorems on triangles.
Inequalities of lines and angles.
Parallel and perpendicular lines.
Properties of quadrilaterals.
Circles: chords, central angles, arcs, tangents, secants.
Concurrent lines.
Similar triangles.
Areas of polygons.
Constructions.
The area of a circle as a limit.
Relations of lines and planes in space.
Definitions and properties of prisms, pyramids, cylinders, cones and spheres.

MATHEMATICS—TRIGONOMETRY

In this subject the following qualifications are emphasized: (1) a knowledge of the concept of function and precise definitions of trigonometric functions of any angle; (2) thorough familiarity with the basic trigonometric identities; and (3) ability to apply logical analysis to the solution of problems. The candidate should be prepared in the following:

Angles and their measure, standard position.
Trigonometric functions of angles and real numbers.
The Unit Circle.
Graphs of functions in rectangular and polar coordinates.
Applications of logarithms to trigonometry.
Fundamental identities, trigonometric equations.
Double and half-angle formulas.
Product, sum and difference formulas, and applications.
Solution of oblique triangles, law of cosines and law of sines.
DeMoivre's Theorem, complex numbers.

MATHEMATICS—ADVANCED PROGRAM

This program includes 1½ semesters of mathematics beyond that required as standard for graduation from USMA. It is offered

to selected cadets whose pre-USMA academic record shows: (1) high quality of performance in the standard preparation outlined above in algebra, geometry and trigonometry; (2) not less than 4 years of college-preparatory mathematics; (3) active study of mathematics during the final year before entering the Military Academy. A cadet whose pre-USMA record satisfies these requirements must also achieve high standing in mathematics during his early months at West Point in order to remain in the Advanced Program. A candidate aspiring to this program is urged to take the Advanced rather than the Intermediate Mathematics achievement test of the College Board.

FOREIGN LANGUAGES—PREPARATION

Two years of high-school study of any foreign language will normally prove a helpful background for any of the languages taught at West Point. Those interested in taking one of the advanced language courses would do well to take 3 years of the same language (French, German, or Spanish) before entering the Academy. For those interested in studying Portuguese, previous courses in Latin and/or Spanish are advisable. For those desiring to study Russian, courses in either Latin or German, or preferably both, are recommended. (If previous Russian study is possible, it would, of course, provide the best preparation.) Regardless of the language studied, applicants should concentrate on the basic organization of the language, including word forms and functions and sentence structure; on basic vocabulary, to include the common idiomatic expressions; and on accurate pronunciation and proper intonation in word groups and sentences. Courses offering extensive practice in speaking and aural comprehension, without ignoring the fundamentals of the language, should provide excellent preparation for the courses at the Military Academy.

FOREIGN LANGUAGES—ADVANCED PROGRAM

Standard courses in five modern languages are offered at West Point: French, German, Portuguese, Russian, and Spanish. Each cadet studies one of these languages during his first 2 years at the Academy. Cadets are normally assigned to study the language of their choice; but it is sometimes necessary to assign a cadet to the language of second choice, in cases where quotas are oversubscribed. Advanced courses are conducted (during the same time and in lieu of the standard courses) in French, German, and Spanish, for those who qualify in a special placement examination consisting of several

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written parts, a dictation, an aural comprehension test, a passage to be read aloud, and oral replies to a number of simple questions in the language. Advanced courses are also conducted in Portuguese and Russian provided a sufficient number of cadets can qualify therefor. A minimum of 2 years of high-school study of the language or one year of college study is the prerequisite for consideration for the advanced course. Cadets who have completed 2 years of high-school study but who fail to qualify for the advanced course may normally take the standard course in the same language. Cadets having more than 2 years of previous high-school study or more than 1 year of college study must, if they do not qualify for the advanced course in that language, select another language for study at the Military Academy.

SCIENCE

Preparation should include, as a minimum, a standard secondary-school course (including laboratory) in general science, physics, or chemistry. Experience has indicated the desirability of including all three courses in secondary-school preparation.

UNITED STATES HISTORY

The candidate should know the facts and understand the chronological and other relationships concerning the major developments in American History, to include:

Settlement and growth of the English Colonies.
The American Revolution.
Growth of American democratic institutions.
Expansion of the United States.
The Civil War.
Economic development of the United States.
Growth of American social and cultural patterns.
International Relations.

Nomination

Before a young man may be authorized to take the required entrance examinations—academic, medical, and physical aptitude—to qualify for admission, he must apply for, and obtain, an official nomination.

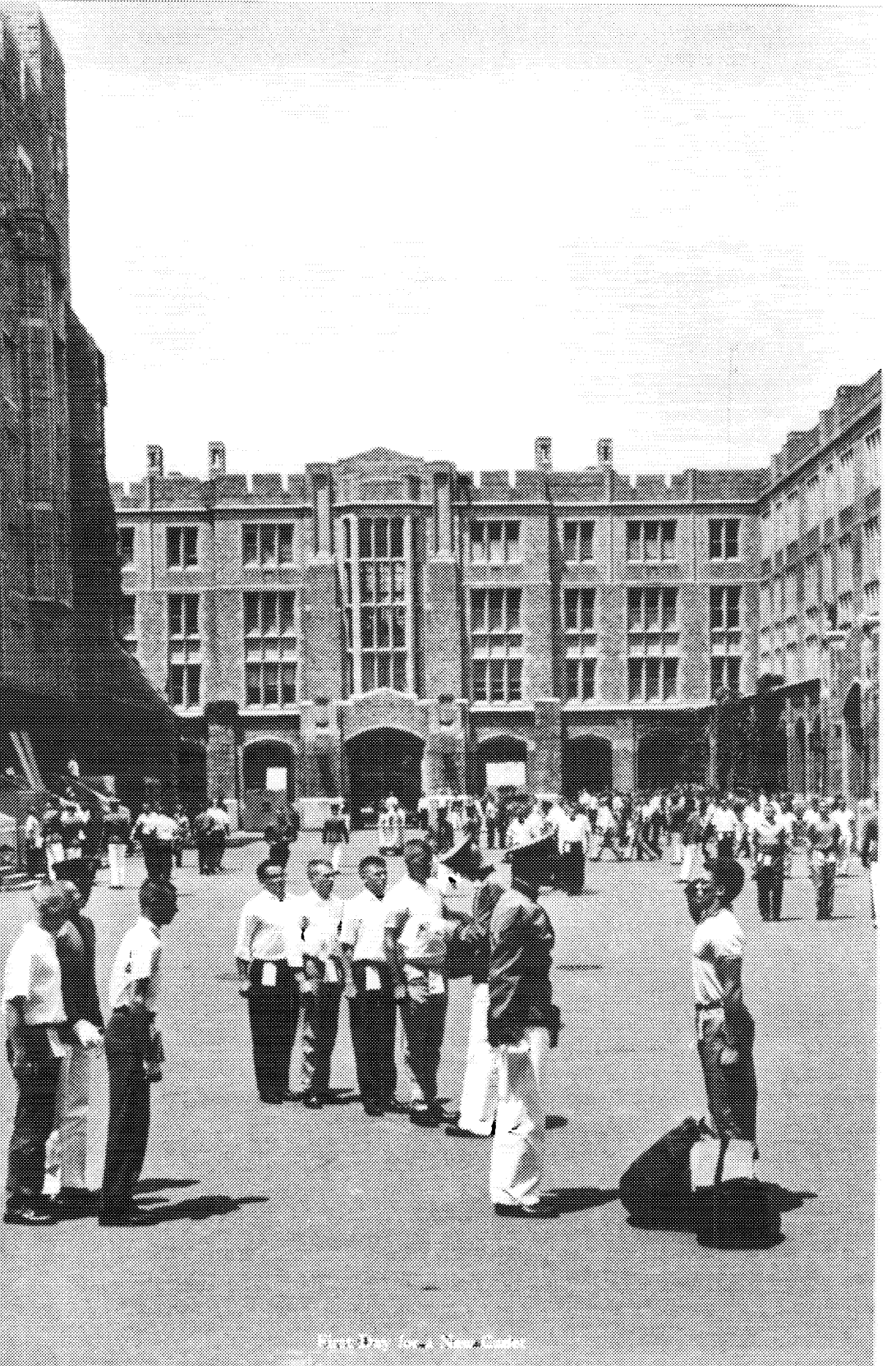
The cadetships authorized at the Military Academy are allocated as follows:

CONGRESSIONAL *Source of Nomination*	*Number*
435 Representatives (4 each)	1,740
100 Senators (4 each)	400
Vice Presidential	3
District of Columbia	6
Canal Zone	2
Puerto Rico	4
Guam, Virgin Islands, American Samoa	1
	2,156
COMPETITIVE	
Army and Air Force:	
Regular Components	90
Reserve Components	90
Presidential	89
Sons of Deceased Veterans	40
Honor Military and Naval Schools	40
	349
SONS OF PERSONS AWARDED THE MEDAL OF HONOR	Unlimited
FOREIGN CADETS	24

Graduation of the senior class normally leaves about 800 of these cadetships vacant and hence available to new candidates each year.

A prospective candidate should examine carefully the sources of nomination to determine those he is eligible to seek and the procedures for applying. A prospective candidate may obtain more than one nomination in any given year.

Having determined the proper nominating sources in his case, a prospective candidate should submit an application to the pertinent authorities, requesting a nomination to the Military Academy. No special application form is required, a regular business letter is all that is necessary. In his application, he should give his residence, state briefly his reasons for wanting to enter the Academy, and name the secondary schools and colleges he attended, listing the courses he has taken and the grades received. He also should list his extracurricular activities and honors received in each activity.



CONGRESSIONAL

Nominations from these sources are entirely in the hands of the nominating authorities who have the cadetships at their disposal, and all requests for nomination must be addressed to them. The law requires that candidates nominated from the states at large, congressional districts, the District of Columbia, the Canal Zone, or the island of Puerto Rico, be domiciled in the geographical unit from which nominated.

The Vice President nominates from the United States at large. United States Senators nominate from their respective states at large. Representatives in Congress nominate from their districts. The Commissioners of the District of Columbia nominate from among residents of the District. The Governor of the Canal Zone nominates from among the sons of civilians residing in the Canal Zone and sons of civilian personnel of the United States Government and the Panama Canal Company residing in the Republic of Panama. The Resident Commissioner nominates for Puerto Rico. The Governors of Guam, Virgin Islands, and American Samoa nominate from among the sons of U.S. citizens or nationals residing in Guam, Virgin Islands, or American Samoa.

Most of these authorities conduct preliminary screening examinations to facilitate their selection of nominees. Prospective candidates, therefore, are encouraged to apply for Congressional nominations at least a year prior to the July of admissions.

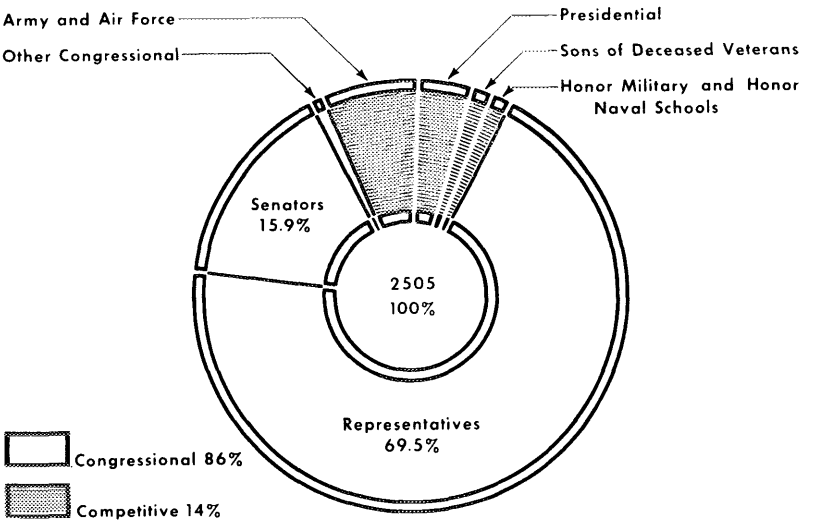
Congressional: Principal-Alternate Method. Members of Congress utilizing this method may nominate four candidates, one being named as principal, one as first alternate, one as second alternate, and one as third alternate. The first alternate, if qualified, will be admitted if the principal fails; the second alternate, if qualified, in case the principal and first alternate both fail; and the third alternate, if qualified, in case all other three candidates fail.

Congressional: Competitive Method. In many cases members of Congress, upon making their four nominations for each vacancy, authorize the Academic Board, USMA, to select the best qualified of their nominees. Such nominees are termed "Congressional Competitors." Congressional competitors must submit College Board scores from the December, January, or March test administration.

COMPETITIVE

Appointments to vacancies within the competitive categories are awarded to the best-qualified candidates within each group.

A candidate for one of these vacancies can qualify only by taking the College Board examinations at the December (Saturday, 7 December 1963) or January (Saturday, 11 January 1964) College Board test administration. Failure of a competitive candidate to take the December or January College Board tests—regardless of the circumstances—will cancel his nomination. Competitive candidates disqualified after the December or January College Board Tests will be denied further examination under instructions from Headquarters, Department of the Army. There is no restriction on the residence of a competitive candidate. A description of the competitive nomination categories follows:



Sources of Nomination

(1) *Army and Air Force:*

One hundred and eighty (180) cadetships at the Military Academy are divided equally between enlisted men of the United States Army and the United States Air Force as follows: Ninety (90) from the Regular components (Regular Army and Regular Air Force); Ninety (90) from the Reserve components (National Guard of the United States, the Air National Guard of the United States, the Army Reserve, and the Air Force Reserve).

Admission of candidates to fill Regular component vacancies is made from among all Regular Army and Regular Air Force competitors regardless of the command from which nominated; to fill Reserve component vacancies, from among all National Guard, Air National Guard, Army Reserve, and Air Force Reserve competitors

regardless of the State, District, or command from which nominated. A joint Army-Air Force publication, AR 350–55, AFR 53–13, gives detailed instructions for making application for Regular and Reserve component nominations. This publication may be obtained from the nearest Army or Air Force installation or by writing to Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M.

(2) *Presidential:*

Eighty-nine (89) cadetships comprise the Presidential quota. For over a century these appointments have been reserved by each President for the sons of members of the regular components of the Army, Air Force, Navy, Marine Corps, and Coast Guard, who are still in service, retired, or who died while serving. The administration of these appointments has been delegated to the Department of the Army. Applications by those eligible should be made by letter (no prescribed form) addressed to Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M, giving the name, grade, service number, and branch of service of the parent as a member of such regular component; and the full name, address, and date of birth of the applicant (complete military address and service number if in the Armed Forces). Application for a Presidential nomination must be made prior to 26 December 1963. Adopted sons are eligible for appointment if they were adopted prior to their fifteenth birthday; a copy of the order of court decreeing adoption, duly certified by the clerk of the court, must accompany the application.

(3) *Sons of Deceased Veterans of World War I or II or the Korean War:*

Forty (40) cadetships are provided for the sons of members of the Armed Forces of the United States who were killed in action or who died of wounds, injuries, or disease resulting from active service during World Wars I or II or between June 27, 1950, and midnight of January 31, 1955. The Veterans' Administration determines the eligibility of all applicants, and its decisions are final and binding on the Department of the Army. Application should be made by letter (no form is prescribed) addressed to Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M. Application must be made prior to 26 December 1963. The letter should state the full name, date of birth, and address of the applicant

(complete service address should be given if the applicant is in the Armed Forces), and the name, grade, service number, and last organization of the veteran parent, together with a brief statement concerning the time, place, and cause of death. The claim number assigned to the veteran parent's case by the Veterans' Administration should also be furnished.

(4) *Honor Military and Honor Naval Schools:*

Forty (40) cadetships are provided for Honor Military and Honor Naval schools. Each such school of the essentially military type, as determined by annual Departments of the Army and Navy inspections, is invited to nominate three candidates annually from among its honor graduates. The number of available vacancies will be filled in order of merit, regardless of the schools from which the candidates are nominated. Each nomination must contain a certification by the head of the institution that the candidate is an honor graduate of a year for which the institution was designated an honor military or naval school. However, the institution is not limited to those graduates of the current year. Honor School nominations must be received in Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M, prior to 26 December 1963.

SONS OF PERSONS AWARDED THE MEDAL OF HONOR

Sons of recipients of the Medal of Honor may be nominated and appointed to the Military Academy. The administration of these nominations has been delegated to the Department of the Army. Application by those eligible should be made by letter (no form is prescribed) to Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M. The letter should contain the applicant's full name, address, and date of birth (complete service address should be given if the applicant is in the Armed Forces), the name, grade, and branch of service of the parent and a brief statement of the date and circumstances of the award. Candidates nominated from this source may qualify in the same manner as a Congressional principal candidate. All who are found fully qualified will be admitted as cadets, regardless of the number.

FOREIGN CADETS

By mutual agreement between the United States and the countries concerned, young men from the foreign countries listed below may be designated to take the entrance examinations and, if qualified, be authorized to receive instruction at the Military Academy.

Applications must be submitted to the United States Government by the government concerned. Requirements for the admission, advancement from class to class, and graduation of foreign cadets are similar to those for cadets of the United States. Foreign cadets are not entitled, however, by reason of their graduation, to appointment in the Armed Forces of the United States. Foreign cadets receive the same pay and allowances as cadets appointed from the United States.

Republic of the Philippines. One Philippine National, selected on the basis of scores on the entrance examination from among those designated by the President of the Republic of the Philippines, may be authorized to enter with each class and receive instruction at the Military Academy.

American Republics. A total of not more than 20 citizens of the American Republics may receive instruction at the Military Academy at any one time. Not more than three persons from any one country may be cadets at the same time.

Other Foreign Countries. Citizens of other foreign countries have been permitted from time to time to attend the Military Academy upon specific authorization of the United States Congress in each case.

QUALIFIED ALTERNATES AND QUALIFIED COMPETITORS

When it is determined that the number of new cadets of an entering class will not bring the Corps to its authorized strength, the Academic Board may recommend for appointment qualified candidates, regardless of the vacancies for which they were nominated. Thus, a young man who is fully qualified to enter the Military Academy but who did not receive the appointment to the particular vacancy for which he was competing will still be considered for appointment to enter the Academy as a qualified candidate. No application by the individual is necessary or desired, for all qualified candidates are considered by the Academic Board. In making its selection the Board considers the following factors: academic ability based upon the candidate's entire scholastic record; character and other personal attributes, as shown by confidential statements furnished by principals, teachers, and other school officials; evidence of exceptional capabilities; and leadership potential. Cadets admitted upon recommendation of the Academic Board are not charged to the Congressional or Competitive quotas under which they were originally nominated.

REAPPLICATIONS

A candidate who is not selected for a class entering the Academy may reapply for a nomination and qualifiy for appointment as a cadet in a subsequent year. Policies as to whether results of previously taken examinations will be considered in such cases are set forth in the section on Examinations.

Examinations

Upon the receipt of a candidate's nomination from a nominating authority, Headquarters, Department of the Army, will send the candidate a letter of notification. This letter officially authorizes the candidate to take the academic, medical, and physical aptitude examinations required to establish qualification for appointment to enter the Military Academy to fill the vacancy for which nominated. The candidate also receives detailed instructions covering such matters as submission of transcripts of scholastic records and personal-history data.

ACADEMIC EXAMINATION

The academic examination by which authorities at the Military Academy determine eligibility for admission to the Corps of Cadets is based on two factors:

1. A review of the candidate's scholastic record to determine that is has been habitually sound enough to warrant admission, and that college-preparatory subjects have been broadly distributed throughout the secondary-school education.

2. Acceptable performance on the following tests of the College Entrance Examination Board:

The Scholastic Aptitude Test

The Achievement Test in English Composition

The Achievement Test in either Intermediate or Advanced Mathematics*

Although not required, submission of a well-written College Board Writing Sample will be considered additional evidence of academic qualification. Hence, candidates are urged to take the Writing Sample Test.

*Scores on either the Intermediate or Advanced Mathematics achievement test will be accepted by the Military Academy. No adjustment is made on the scores because of any possible difference in the degree of difficulty of the two tests; however, an individual who has done well in three years of college-preparatory mathematics and is enrolled in a fourth year is prepared for the advanced test and should not hesitate to take it.

The importance of a candidate's record of performance in secondary school is stressed positively. A candidate's performance in comparison to his peers in secondary school is the best single predictor of academic success at West Point. The student who by performance over a long period submits evidence of excellent academic achievement at the secondary-school level is considered most likely to satisfy the demands of the rigorous academic program presented at the Military Academy. For example, over 78 percent of the cadets who entered the Military Academy in July 1962 (Class of 1966) ranked in the top quintile of their high school classes; 17 percent ranked in the second quintile.

Although the candidate's secondary-school record indicates his drive and initiative, and is the best single predictor of academic success, it is not the only valid predictor. College Board test scores also predict academic success at West Point to a marked degree; but these test scores become more valid when used jointly with other measuring indices, such as the secondary-school and/or college academic record. Thus a candidate who has a relatively poor secondary-school record may fail to qualify even though he has achieved good College Board test scores, while the candidate who has an excellent scholastic record but who scored lower on the College Board tests may qualify academically. Moreover, the College Board test scores and secondary-school scholastic record are not the sole factors in the examination. The Military Academy also considers carefully all other evidence in the candidate's prior scholastic record which may predict his success at the Military Academy. For example, good scholastic performance in college would be strongly favorable while poor performance would be strongly unfavorable.

A candidate who fails to gain admission to West Point upon completion of secondary school and is still interested in preparing at USMA for an Army career, is advised to attend a college, pursue a course whose contents and standards are comparable to those of the Military Academy's first year, and submit a record of good scholastic performance.

In addition to the regularly scheduled tests of the College Board at more than 800 centers throughout the United States and foreign countries, the March College Board tests are given at designated military stations (appendix IV) along with the medical and physical aptitude examinations required by the Military Academy. Information on dates of administration, location of test centers, dates

by which the applicant must register, and methods of application are contained in the College Board Bulletin of Information. This booklet may be obtained from the principal, guidance counselor, or librarian in most high schools or may be obtained by writing to: The College Entrance Examination Board, P.O. Box 592, Princeton, N.J., or P.O. Box 27896, Los Angeles 27, Calif.

The nature and scope of each College Board test, together with sample questions, are described in other booklets published by the College Entrance Examination Board. The College Board will send free to all candidates, booklets describing the tests for which they register.

The U.S. Government will pay the College Board test fees of all authorized candidates. An application form for registering is contained in the material supplied to nominated candidates by Department of the Army. The candidate must request on his application form that his scores be sent to the Military Academy.

A Congressional Candidate nominated as a principal or alternate prior to the closing date for registration for the March College Board tests may take the tests prescribed for him at any of the regularly scheduled administrations of the College Board prior to the March tests, or at the March tests conducted especially for the Military Academy at military stations listed in appendix IV. A Congressional Candidate nominated subsequent to the March College Board tests may take the tests prescribed for him at the special administration at West Point in June.

Congressional candidates nominated as a principal or alternate who have previously taken any of the required College Board tests should request the appropriate CEEB office (Princeton or Los Angeles) to send the scores to the Military Academy for consideration. After receipt of the prior scores and the candidate's educational record, the Director of Admission and Registrar, USMA, will advise the candidate on the status of his academic qualification.

Congressional competitors, as defined on page 125, must submit College Board scores from the December, January, or March test administration.

Candidates who have previously failed academically must retake the College Board Scholastic Aptitude and achievement tests to qualify under the new nomination.

Competitive candidates seeking to qualify under one of the following categories—Army and Air Force (Regular and Reserve Components), Presidential, Sons of Deceased Veterans, or Honor Military

or Naval Schools—must take the Scholastic Aptitude Test and the required achievement tests in English Composition and Mathematics at the December or January administrations. Failure of a competitive candidate to report for the December or January examinations automatically cancels his nomination.

A candidate holding more than one nomination, one or more of which is competitive (including Congressional Competitive), must either: (1) follow the procedure for his competitive nomination, the results of which will determine his eligibility under both types of nomination, or (2) relinquish his competitive nomination and meet the requirements for his principal or alternate nomination.

MEDICAL EXAMINATION

Every candidate, regardless of the type of nomination he receives, is required to undergo a thorough medical qualification examination prior to entrance to the Military Academy. Requirements for this examination are contained in appendix I.

Upon receipt of a nomination, a candidate will be authorized to take the medical qualification examination at one of the stations listed in appendix II. The candidate will contact the hospital, in writing, requesting an appointment. A medical qualification examination is also given in March at the stations listed in appendix IV in conjunction with the academic and physical aptitude examinations. Candidates receiving nominations subsequent to the March examinations may take a medical qualification examination at West Point in June.

A medical qualification examination taken within a 12-month period immediately preceding the date of entrance is valid for admission. Candidates are encouraged to take this examination as soon as possible after receiving a nomination, but no later than 31 December 1963, in order to establish early medical qualification for admission. Those unable to take the medical examination by this date will take the examination in March at designated military stations in conjunction with the Physical Aptitude Examination.

Candidates wearing contact lenses will remove the lenses at least 36 hours prior to reporting for the medical examination.

At the time of the examination, it is imperative that the candidate report all previous injuries and operations to assist the examining officer and to alleviate uncertainty in findings reported. The Army will accept or reject a candidate only on the basis of a qualification (final-type) medical examination. Candidates who are assured of

medical acceptability on the basis of any other type medical examination are cautioned that the results are purely advisory and not final or binding in any way upon the Department of the Army.

Instructions as to the arrangements which must be made with the examining station are supplied by Headquarters, Department of the Army at the time the candidate is notified of his nomination. Travel and personal expenses incurred in taking the medical examination are the responsibility of the candidate.

A prospective candidate is urged to see his private doctor and dentist for medical and dental consultations as outlined in appendix I

PHYSICAL APTITUDE EXAMINATION

Each candidate is required to take a physical aptitude examination designed to measure strength, coordination, muscular power, endurance, speed, and agility. The examination is graded on the basis of the total score. In other words, if a passing grade is achieved on the whole examination, failure to achieve a passing score on any single test will not necessarily result in disqualification.

The physical aptitude examination is given in March at the military stations listed in appendix IV at the same time as the administration of the College Board tests and the medical examination. Candidates receiving nominations subsequent to the March examinations will take the physical aptitude examination at the special June examinations at West Point.

Candidates should prepare for this examination by engaging in vigorous activities, such as running, conditioning exercises, and competitive games, rather than by practicing on specific test items.

MARCH EXAMINATIONS

Instructions from Headquarters, Department of the Army will authorize the candidate to report for examination at the military station nearest his home (app. IV) on Wednesday, 4 March 1964, where he may take all of the examinations required for admission. The physical aptitude and medical examinations are given first and should be completed by Friday afternoon. On Saturday, 7 March, the College Board tests will be given at these military stations. During this examination period (Wednesday p.m.—Saturday p.m.) living accommodations and meals will be provided at nominal cost. Except for service men whose expenses are paid by the Government, travel and personal expenses are the responsibility of the candidate.

Failure to complete all examinations—academic, medical, and physical aptitude—by the end of the March examinations nullifies

a Congressional Competitive or a principal or alternate nomination, unless in the case of a principal or alternate nomination, failure to report is due to sickness or some other unavoidable cause, in which case the principal or alternate candidate may request authority to take the special June examinations at West Point.

JUNE EXAMINATIONS

A special administration of the College Board tests and of the medical and physical aptitude examinations is given at West Point on Tuesday, 9 June 1964. These examinations are limited to candidates nominated after the March examinations and principal and alternate nominees unable to take the March examinations because of sickness or other unavoidable causes.

ADMISSIONS PROCESS

The qualification and selection of candidates consists of a process which involves: (1) predication of academic achievement; (2) evaluation of personal qualifications; (3) recognition of outstanding interests, activities, or achievements; (4) prediction of achievement in physical education; and (5) determination of medical fitness. Academic potential is determined by academic performance in secondary school and/or college and by scores on the College Board tests. There is no set cutoff score on any of the required College Board tests nor any cutoff on any rank in class. Academic standards are more specifically described in a class-profile pamphlet which is printed and distributed annually. This profile gives a distribution of scores on the College Board tests and a description of the secondary-school class standing of admitted cadets.

All candidates are notified whether they are: (1) qualified and entitled to admission for a vacant cadetship; (2) qualified but not entitled to admission because there is no vacant cadetship; or (3) disqualified academically, medically, or in physical aptitude. For the various competitive categories, candidates are selected on a best-qualified basis within each category. This determination is made by giving 60 percent weight to academic potential, 30 percent weight to leadership potential, and 10 percent weight to physical aptitude.

All decisions affecting admission of cadets are made by the Academic Board under policies approved in the Department of the Army.

Candidates who have poor secondary-school records are encouraged to show academic success with college-level work if they hope to meet West Point's academic standards for admission.

Appointment

From 7 to 8 weeks after a candidate has completed the required examinations—academic, medical, and physical aptitude—he will be advised by Headquarters, Department of the Army, whether he is qualified and whether he has been selected to fill the vacancy for which he has been nominated. Those entitled to admission will be directed to report to West Point on the first of July. Appointees will be furnished a letter of instructions giving details of reporting, such as time, place, and articles to bring.

PREPARATORY PHYSICAL CONDITIONING

Because of the nature of the new cadets' training during their first 2 months at West Point, physical demands upon them are necessarily great. Experience indicates that those cadets who, prior to admission, have conditioned themselves physically are best able to meet the training requirements. The candidate should strive for the degree of conditioning required for vigorous team sports. He is advised to practice heavy physical conditioning exercises (such as pull-ups, sit-ups, and push-ups) until many repetitions of the exercises can be performed without severe physical strain. In addition, he should strengthen his legs and wind by regular cross country running and by fast climbing on steep slopes. A program of vigorous competitive sports should be followed, with emphasis on variety of sports rather than on one favorite activity. Any candidate in doubt about his physical-conditioning methods would be well-advised to consult a high school or college physical education department.

Obligations

DEPOSIT UPON ENTRANCE

Because the purchase of his uniforms, textbooks, etc., requires a heavy expenditure of funds during his first year, the appointee should make a deposit of $300 prior to 15 June of the year of his entrance to the Academy. When such deposit is in the form of a check, it should be made to the Treasurer, USMA, and mailed to him at West Point. The deposit is credited to the cadet's account.

IMMUNIZATIONS

The appointee is required to furnish the Surgeon, USMA, by mail, evidence from a physician of successful smallpox vaccination, including type of reaction, given within six months prior to entry to

the Military Academy. Candidates examined at West Point in June will be required to submit such documentary evidence, by mail, as soon as possible thereafter. A list of other vaccinations or inoculations received by the appointee should be included.

TRAVEL EXPENSES

New cadets who were members of the Armed Services on active duty are entitled to permanent change of station allowances as provided under the Joint Travel Regulations.

New cadets who were not previously members of the Armed Services on active duty are entitled to the permanent change of station allowances for travel actually performed, not to exceed the official distance between the place which the cadet certifies was his actual permanent place of abode, home or school, at the time such travel to the Academy commenced. The allowance for travel at personal expense is 6 cents per mile. Payment of the travel allowance is usually made in the month of September and is credited to the cadet's account. Should the deposit upon entrance plus the travel allowance exceed $300, the cadet may submit a request to have the excess over $300 returned to his parents. No action is taken on any request for the return of excess deposit until the travel allowance has been paid. The request for return of excess allowance to parents must be initiated by the cadet.

OATH OF ALLEGIANCE

Each appointee (except a foreign candidate) takes the oath of allegiance to the United States in a formal ceremony on the day of admission.

ENGAGEMENT FOR SERVICE

Upon admission each cadet (except a foreign cadet), with the consent of his parents or guardian, if he is a minor, must sign articles by which he shall engage, unless sooner separated by competent authority—

To complete the course of instruction; and

If tendered an appointment as a commissioned officer in a Regular component of one of the armed services upon graduation from the United States Military Academy, to accept such appointment and to serve under such appointment for not less than 4 consecutive years immediately following the date of graduation; and

In the event of the acceptance of his resignation from a commissioned status in the Regular component of such armed service prior

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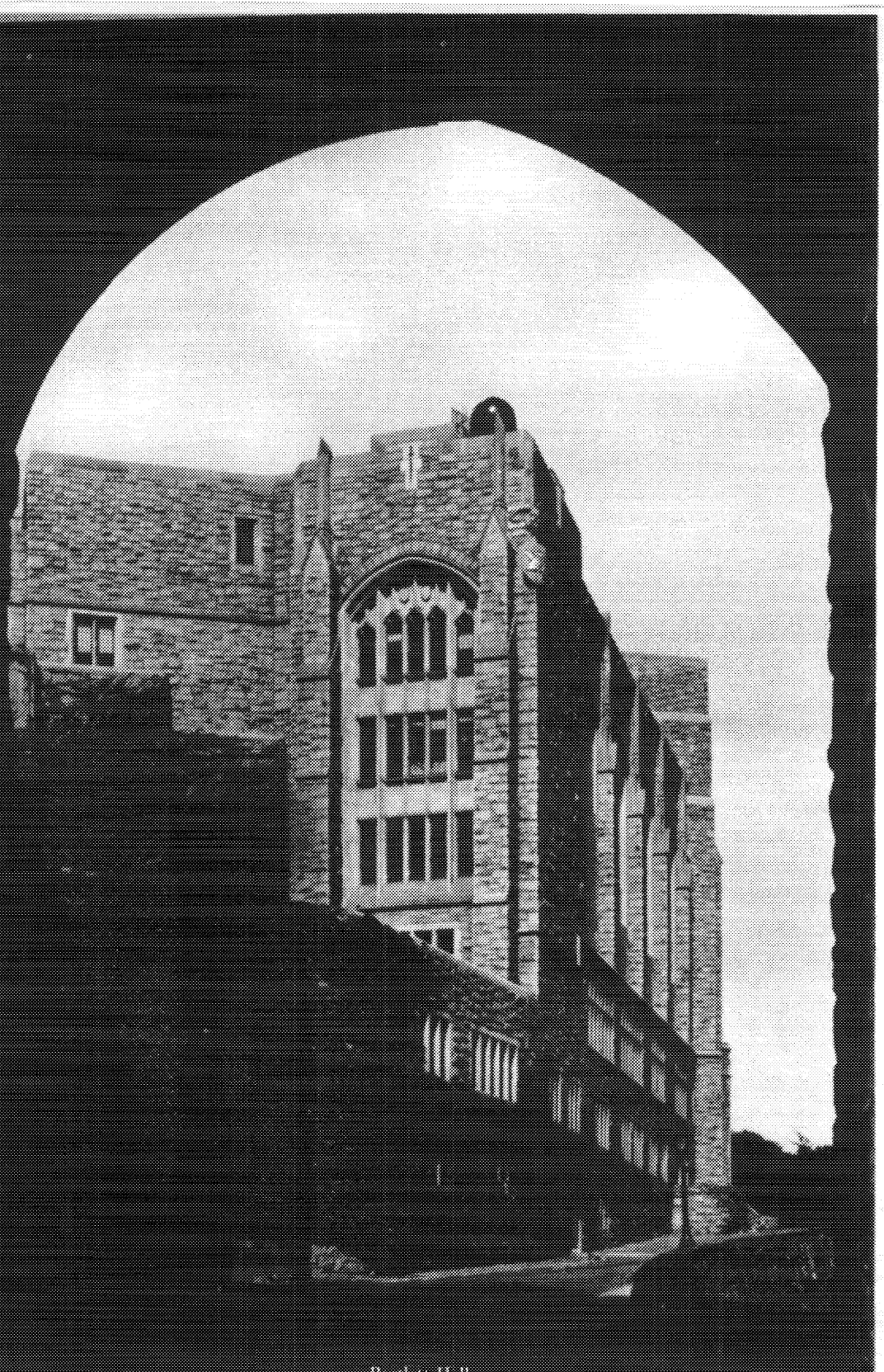


to the sixth anniversary of his graduation, or in the event of an appointment in such Regular service not being tendered, to accept a commission which may be tendered him in the Reserve component and not resign therefrom prior to such sixth anniversary; and

In the event of his separation from the Corps of Cadets prior to graduation, to complete his active duty obligation, or to accept, if qualified, transfer to the Army Reserve in an appropriate enlisted grade, and to complete the 6-year service obligation, including 6 months active duty training if required.

Pay, Leave, and Promotions

PAY AND ALLOWANCES

Cadets are members of the Regular Army and, as such, receive pay and allowances as provided by pertinent statutes. Cadets currently receive $111.15 a month, from which they must pay for their uniforms, textbooks, and incidentals. Quarters, rations, and medical care are provided. The pay and allowances received are adequate to cover all expenses.

LEAVES OF ABSENCE AND HOLIDAYS

During the academic year (September–May), duties are suspended for about 12 days at Christmas and 4 days in March, at which time members of the three upper classes may be granted leaves of absence. The three upper classes also receive leaves of 4 weeks during the summer period (June–August), the remainder of the time being devoted to practical military instruction. Duties for all classes are suspended on national holidays. Eligible cadets are authorized to take weekend leaves as follows: First Class—nine per academic year, Second Class—two per academic term, Third Class—one per academic term.

PROMOTION UPON GRADUATION

When a cadet has completed the course of instruction and meets the required physical standards he is, upon graduation, promoted and appointed a second lieutenant in the Regular Army. Under law, a graduating cadet may request to be commissioned in another service.

GENERAL INFORMATION

Board of Visitors

The custom of a Board of Visitors for West Point goes back almost to the year of its founding. On 1 July 1815, "A Regulation for the Government of the Military Academy," approved by Secretary of War William H. Crawford, provided for the appointment of a Board to consist of five "competent gentlemen," with the Superintendent as President, who should attend at each of the annual and semi-annual examinations at West Point and report thereon to the Secretary.

The Boards are appointed at present under the provisions of an act of Congress approved 29 June 1948. This act specifies that a Board of Visitors shall visit the Military Academy each year and inquire into the state of morale and discipline, curriculum, instruction, physical equipment, fiscal affairs, academic methods, and other matters relating to West Point which the Board may decide to consider, and submit a written report to the President of the United States giving its views and recommendations pertaining to the United States Military Academy. The personnel of the Board shall be as follows:

a. The Chairman of the Committee on Armed Services of the Senate;

b. Three other Members of the Senate to be appointed by the Vice President, two of whom shall be members of the Committee on Appropriations of the Senate;

c. The Chairman of the Committee on Armed Services of the House of Representatives;

d. Four other Members of the House of Representatives to be appointed by the Speaker of the House of Representatives, two of whom shall be members of the Committee on Appropriations of the House of Representatives;

e. Six persons to be appointed by the President.

BOARD OF VISITORS 1962

Appointed by the President of the United States: Mr. Robert T. Stevens, President, J. T. Stevens & Co., New York, N.Y.; Gen. Omar N. Bradley, USA, Chairman of the Board, Bulova Watch Co., New York, N.Y.; Maj. Gen. Leif J. Sverdrup, USAR, Ret., Sverdrup & Parcel & Associates, Inc., St. Louis, Mo.; Dr. Edwin D. Harrison, President, Georgia Institute of Technology, Atlanta, Ga.; Dr. Robert F. Goheen, President, Princeton University, Princeton, N.J.; Dr. Eric A. Walker, President, The Pennsylvania State University, University Park, Pennsylvania.

Appointed by the Vice President of the United States: SEN. ALLEN J. ELLENDER, Louisiana, SEN. EDMUND S. MUSKIE, Maine, SEN. JACOB K. JAVITS, New York

Appointed by the Speaker of the House of Representatives: REP. OLIN E. TEAGUE, Texas, REP. R. WALTER RIEHLMAN, New York, REP. WILLIAM H. NATCHER, Kentucky, REP. WILLIAM E. MINSHALL, Ohio

Ex-Officio Members of the Board: SEN. RICHARD B. RUSSELL, Georgia (represented by SEN. E. L. BARTLETT, Alaska), REP. CARL VINSON, Georgia (represented by REP. PORTER HARDY, JR., Virginia)

Association of Graduates

The Association of Graduates, USMA, is a voluntary membership organization open to all graduates of the Military Academy and to former cadets who were honorably discharged after at least one academic term at the Academy. About 91 percent of the 16,900 living graduates, and many former cadets who did not graduate, are members.

The Association was founded at New York City in 1869 under the personal leadership of Brig. Gen. Sylvanus Thayer, USMA 1808, and Maj. Gen. Robert Anderson, USMA 1825, hero of Fort Sumter. Annual meetings have been held at West Point during June Week since 1870. Its purpose is "To acquire and disseminate information on the history, activities, objectives, and methods of the Military Academy; to acquire and preserve historical materials relating to that institution; and to encourage and foster the study of military science there by worthy young men."

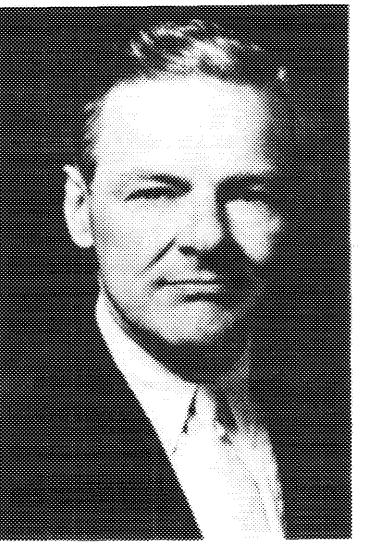
The Bureau of Internal Revenue has ruled that the Association is tax-exempt and all gifts, contributions, donations, and bequests thereto are likewise exempt from taxation. The Association of Graduates is the only organization through which alumni as a body can contribute their time, effort, and money toward the enhancement of their Alma Mater.

Under the aegis of the Association three annual events have grown to become important traditions. At the Alumni Parade in June Week, the Long Gray Line, led by the Superintendent, the President of the Association of Graduates, and the Oldest Graduate Present, marches from Cullum Memorial Hall to Thayer Monument. There, in the presence of the Corps and a multitude of visitors, homage is paid to the "Father of the Military Academy" and to the memory of those graduates who died during the preceding year. It has been said that this gathering of alumni represents, by those attending, more United States history than any other group of similar size.

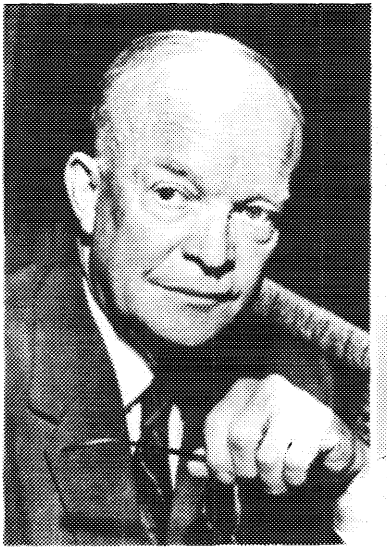
Founders Day, 16 March, is celebrated at West Point and at nearly 100 other places throughout the world. These celebrations

rnest Orlando Lawrence, 1958

John Foster Dulles, 1959



Henry Cabot Lodge, 1960



Dwight David Eisenhower, 1961

Douglas MacArthur, 1962

RECIPIENTS OF THAYER AWARD

traditionally include a dinner, attended by all alumni within commuting distance, and speeches by the oldest and youngest graduates present. Each year since 1958 the Association of Graduates has presented the Sylvanus Thayer Award, a gold medal, to the United States citizen whose record of service to his country, exemplifies devotion to the principles expressed in the motto of West Point—"Duty, Honor, Country." Recipients of the award have been Dr. E. O. Lawrence in 1958, John Foster Dulles in 1959, Henry Cabot Lodge in 1960, Dwight D. Eisenhower in 1961, and Douglas MacArthur in 1962.

The major programs of the Association include maintenance of biographical files on all graduates; publication of necrologies and class reports in *Assembly*; receipt and disposition of historical items; support and establishment of West Point Societies; maintenance of an up-to-date list of addresses; correspondence concerning graduates; presentation of awards to cadets; selection of the person to receive the Sylvanus Thayer award; and organization of alumni activities at West Point.

Information is disseminated through two publications published by the West Point Alumni Foundation, Inc., a nonprofit corporation. The annual *Register of Graduates and Former Cadets* includes a summary of the record of each graduate and where he is and what he is doing. The quarterly magazine *Assembly* gives current information about the Academy and its graduates.

The Association's administrative organization consists of a President and five Vice Presidents, elected annually; a Secretary-Treasurer; and 36 Trustees, 12 of whom are elected annually for terms of 3 years. The Association's office is located in Cullum Memorial Hall.

Cooperating with the Association are the following autonomous West Point Societies:

State	*West Point Society of—*
Alabama	ALABAMA (Birmingham)
Arizona	PHOENIX
	SOUTHERN ARIZONA (Tucson)
Arkansas	ARKANSAS (Fort Chaffee)
California	LOS ANGELES
	MONTEREY PENINSULA (Monterey)
	SAN FRANCISCO BAY AREA
Colorado	DENVER
	PIKES PEAK REGION (Colorado Springs)
Connecticut	CONNECTICUT (Hartford)
District of Columbia	DISTRICT OF COLUMBIA

State	*West Point Society of—*
Florida	Central Florida (Orlando)
	Florida West Coast (Tampa)
	South Florida (Miami)
Georgia	Atlanta
	Columbus (Fort Benning)
	Savannah
Hawaii	Hawaii (Honolulu)
Illinois	Central Illinois (Champaign-Urbana)
	Chicago
Indiana	Indianapolis
Kentucky	Louisville
Louisiana	Mid-Gulf (New Orleans)
Maryland	Maryland (Baltimore)
Massachusetts	New England (Boston)
Michigan	Michigan (Detroit)
Minnesota	Minnesota (Minneapolis)
Mississippi	Mississippi (Jackson)
Missouri	Kansas City
	St. Louis
New Mexico	Albuquerque
New York	New York (New York City)
	Rochester
	Western New York (Buffalo)
North Carolina	Western North Carolina (Asheville)
North Dakota	North Dakota (Bismarck)
Ohio	Central Ohio (Columbus)
	Cincinnati
	Cleveland
	Northwestern Ohio (Van Wert)
Oklahoma	Eastern Oklahoma (Tulsa)
Oregon	Portland
Pennsylvania	Central Pennsylvania (Harrisburg)
	Philadelphia
	Western Pennsylvania (Pittsburgh)
Philippine Islands	Philippines (Manila)
South Carolina	Charleston
Tennessee	Tennessee (Nashville)
Texas	El Paso Area
	Houston
	North Texas (Dallas)
	South Texas (San Antonio)
Washington	Seattle

SUPERINTENDENTS OF THE UNITED STATES MILITARY ACADEMY

1. JONATHAN WILLIAMS
   Maj. Corps of Engineers..... 15 Apr 1802—20 June 1803
2. JONATHAN WILLIAMS
   Lt. Col. Corps of Engineers[1].. 19 Apr 1805—31 July 1812
3. JOSEPH G. SWIFT
   Col. Corps of Engineers..... 31 July 1812—24 Mar 1814
4. ALDEN PARTRIDGE
   Capt. Corp of Engineers..... 3 Jan 1815—28 July 1817
5. SYLVANUS THAYER
   Capt. Corps of Engineers..... 28 July 1817—1 July 1833
6. RENE E. DE RUSSY
   Maj. Corps of Engineers..... 1 July 1833—1 Sept 1838
7. RICHARD DELAFIELD
   Maj. Corps of Engineers..... 1 Sept 1838—15 Aug 1845
8. HENRY BREWERTON
   Capt. Corps of Engineers..... 15 Aug 1845—1 Sept 1852
9. ROBERT E. LEE
   Capt. Corps of Engineers..... 1 Sept 1852—31 Mar 1855
10. JOHN G. BARNARD
    Capt. Corps of Engineers..... 31 Mar 1855—8 Sept 1856
11. RICHARD DELAFIELD
    Maj. Corps of Engineers..... 8 Sept 1856—23 Jan 1861
12. PETER G. T. BEAUREGARD
    Capt. Corps of Engineers[2].... 23 Jan 1861—28 Jan 1861
13. RICHARD DELAFIELD
    Maj. Corps of Engineers[2].... 28 Jan 1861—1 Mar 1861
14. ALEXANDER H. BOWMAN
    Maj. Corps of Engineers..... 1 Mar 1861—8 July 1864
15. ZEALOUS B. TOWER
    Maj. Corps of Engineers..... 8 July 1864—8 Sept 1864

[1] Major Williams resigned 20 June 1803, on a point of command, and pending its settlement on 19 April 1805, when he again returned to service as Chief Engineer, no permanent Superintendent was appointed, the command devolving upon the senior officer of the Corps of Engineers present for duty.

[2] Captain Beauregard, by order of John B. Floyd, Secretary of War, relieved Major Delafield from the Superintendency, but was himself displaced five days later by direction of the succeeding Secretary of War Joseph Holt, the command again devolving upon Major Delafield.

Battle Monument

16. George W. Cullum
Lt. Col. Corps of Engineers.. 8 Sept 1864—28 Aug 1866
17. Thomas G. Pitcher
Col. Infantry[3]..... 28 Aug 1866—1 Sept 1871
18. Thomas H. Ruger
Col. Infantry..... 1 Sept 1871—1 Sept 1876
19. John M. Schofield
Maj. Gen. US Army..... 1 Sept 1876—21 Jan 1881
20. Oliver O. Howard
Brig. Gen. US Army..... 21 Jan 1881—1 Sept 1882
21. Wesley Merritt
Col. Cavalry..... 1 Sept 1882—1 July 1887
22. John G. Parke
Col. Corps of Engineers..... 28 Aug 1887—24 June 1889
23. John M. Wilson
Lt. Col. Corps of Engineers... 26 Aug 1889—31 Mar 1893
24. Oswald H. Ernst
Maj. Corps of Engineers..... 31 Mar 1893—21 Aug 1898
25. Albert L. Mills
1st Lt. Cavalry..... 22 Aug 1898—31 Aug 1906
26. Hugh L. Scott
Maj. Cavalry..... 31 Aug 1906—31 Aug 1910
27. Thomas H. Barry
Maj. Gen. US Army..... 31 Aug 1910—31 Aug 1912
28. Clarence P. Townsley
Col. Coastal Armored Corps.. 31 Aug 1912—30 June 1916
29. John Biddle
Col. Corps of Engineers..... 1 July 1916—31 May 1917
30. Samuel E. Tillman
Col. US Army..... 13 June 1917—11 June 1919
31. Douglas MacArthur
Brig. Gen. US Army..... 12 June 1919—30 June 1922
32. Fred W. Sladen
Brig. Gen. US Army..... 1 July 1922—23 Mar 1926
33. Merch B. Stewart
Brig. Gen. US Army..... 24 Mar 1926—5 Oct 1927
34. Edwin B. Winans
Maj. Gen. US Army..... 23 Oct 1927—25 Feb 1928

[3] The Superintendents were selected from the Corps of Engineers until passage of the law of 13 July 1866, which opened the Superintendency to the entire Army. By the Act of 12 June 1856, the local rank of Colonel was conferred upon the Superintendent.

35. William R. Smith
Maj. Gen. US Army..... 26 Feb 1928—30 Apr 1932
36. William D. Connor
Maj. Gen. US Army..... 1 May 1932—17 Jan 1938
37. Jay L. Benedict
Brig. Gen. US Army..... 5 Feb 1938—17 Nov 1940
38. Robert L. Eichelberger
Brig. Gen. US Army..... 18 Nov 1940—12 Jan 1942
39. Francis B. Wilby
Maj. Gen. US Army..... 13 Jan 1942—4 Sept 1945
40. Maxwell D. Taylor
Maj. Gen. US Army..... 5 Sept 1945—28 Jan 1949
41. Bryant E. Moore
Maj. Gen. US Army..... 28 Jan 1949—17 Jan 1951
42. Frederick A. Irving
Maj. Gen. US Army..... 1 Feb 1951—31 Aug 1954
43. Blackshear M. Bryan
Lt. Gen. US Army..... 3 Sept 1954—14 July 1956
44. Garrison H. Davidson
Lt. Gen. US Army..... 15 July 1956—30 June 1960
45. William C. Westmoreland
Maj. Gen. US Army..... 1 July 1960—28 June 1963
46. James B. Lampert
Maj. Gen. US Army..... 29 June 1963—

APPENDICES

I. Special Medical Examination Considerations

The following special medical examination considerations are listed in order that candidates, prospective candidates, their private physicians and dentists may have readily available medical requirements for entrance to the Academy. Candidates authorized to have this medical examination accomplished at one of the facilities listed in appendix II will contact the hospital, in writing, requesting an appointment.

MEDICAL HISTORY: The medical history will be compiled with particular care. Inquiries will be made in detail concerning all illnesses, injuries, and operations which the candidates may have incurred, and elaborated upon when indicated. Failure to fully document these items invariably results in disappointment to all concerned when medical disqualification is determined later. A history of familial diseases will be investigated with thoroughness. If the candidate has received medical care which significantly affects his physical status, then he will be required, whenever practicable, to submit evidence from attending physicians or from hospital records concerning this medical care.

BODY BUILD AND MEASUREMENTS: Build will be recorded as slender, medium or heavy. In addition, where obesity exists it will also be recorded. Poor physical development, regardless of actual height and weight ratio, is a cause for rejection.

The following standard weight table according to height and age applies.

Standards of Weight According to Height

Height (inches)	Weight		Height (inches)	Weight	
	Min.	Max.		Min.	Max.
66	107	191	73	135	231
67	111	196	74	139	237
68	115	202	75	143	234
69	119	208	76	147	248
70	123	214	77	151	254
71	127	219	78	153	260
72	131	225			

A range in height from 66 inches to 78 inches inclusive is required.

A waiver for overheight or up to 2 inches below the minimum height may be considered in the Department of the Army, provided the candidate possesses exceptional educational qualifications, or has an outstanding military record, or has demonstrated outstanding abilities. Height will be carefully measured without shoes or stockings and will be recorded to the nearest quarter of an inch. The weight will be taken without shoes or clothing and recorded to the nearest pound.

TEETH: The teeth, mouth, and gums will be thoroughly examined by a practicing dental surgeon. The examination will include bite-wing roentgenograms and, when indicated, periapical roentgenograms. Notation will be made as to the serviceability or unserviceability of all dentures and bridges. Defects and infections, including periodontal disease, will be recorded and classified as to severity. Dental examinations of applicants wearing appliances for active orthodontic treatment will be deferred until such appliances are removed.

Dental standards for acceptance are as follows:

(1) A satisfactory relationship between the mandible and the maxilla of such nature that adequate prosthodontic replacements may be fabricated should it become necessary to remove any or all of the remaining natural teeth.

(2) That existing prosthodontic appliances meet generally acceptable standards of design, construction, and tissue adaptation.

(3) In the case of an existing lower prosthodontic appliance, that it be retained and adequately stabilized by sufficient serviceable natural teeth.

(4) No carious teeth or improperly restored, or filled, natural teeth.

(5) Must not have a disfiguring appearance of the existing natural anterior teeth as a result of disfiguring spaces, malalignment, or malocclusion.

(6) A sufficient number of serviceable anterior and posterior natural or artificial teeth so opposed as to permit the proper mastication of a normal diet.

Causes for rejection are:

(1) Failure to meet the requirements and standards set forth above.

(2) Diseases of the jaws or associated tissues which are not easily remediable, would incapacitate the individual, and might prevent his satisfactory performance of duty.

(3) Orthodontic appliances required for the active movement of teeth.

The dental examiner will not determine dental acceptability for the candidate. However, he will inform the candidate of dental defects which must be remedied.

Department of the Army will notify the candidate with regard to acceptance or rejection, and as to required corrective actions, if any. Authority to proceed to the Military Academy will not be granted until a statement is received from the candidate's dentist indicating that all corrective measures, including the restoration of carious teeth as indicated by bite-wing X-rays, have been accomplished.

Candidates having correctible dental defects will be informed of same and instructed that they will be responsible for having the defects corrected prior to reporting to West Point in July. Candidates will also be informed that they will have in their possession at the time of reporting at West Point a statement from a practicing dental surgeon stating that all dental defects have been remedied, and listing all dental corrections made for the purpose of complying with USMA entrance requirements.

Eyes and Vision: Uncorrected visual acuity 20/100 correctible to 20/20 in each eye is acceptable. In all cases the actual vision of each eye and the correcting lenses, if required, will be reported. Careful inquiry will be made by the board of symptoms of asthenopia, and any symptoms elicited will be recorded. The refractive error will be determined by a cycloplegic examination, unless contraindicated medically, in all cases where the candidate's uncorrected vision is less than 20/20 in either eye and in other instances when indicated. The refractive error will be determined one hour after the instillation of 5 percent homatropine. Errors of refraction will be a cause for rejection, even though the visual acuity falls within acceptable limits. Total hyperopia of more than five (5.00) diopters in any meridian of either eye, total myopia of more than seventy-five hundredths (0.75) of a diopter in any meridian of either eye, astigmatic error of more than three (3.00) diopters in either eye, or anisometropia of more than three and one-half (3.50) diopters is cause for rejection.

Muscle balance of the eyes will be determined by either a Cover Test or a white Maddox rod test and 20 feet in all cases and will be reported in prism diopters. Esophoria of more than 15 prism diopters, exophoria of more than 10 prism diopters, and hyperphoria of more than 2 prism diopters are causes for rejection. Strabismus of any degree is disqualifying.

Both eyes must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease. A comment will be included on examination form to indicate whether candidate wears contact lenses.

Must have normal color perception. Results of tests will reflect the name of the test, the number of plates correctly read, and the number of plates in the test, i.e., 14/17.

EARS AND HEARING: Auditory acuity of all candidates will be determined by the audiometer. Loss of hearing, as determined by the audiometer, must not be greater than 15 decibels in any of the frequencies 500, 1,000, and 2,000, nor greater than 40 decibels in the frequency 4,000. Each candidate will be tested at the following frequencies: 250, 500, 1,000, 2,000, and 4,000. Existing perforation of the membrana tympani, regardless of etiology, is a cause for rejection. Both ears must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease.

NARES: Septal deviation, hypertrophic rhinitis, or other conditions which result in 50 percent or more obstruction of either airway, or which interfere with drainage of a sinus on either side, are causes for rejection.

SKIN: Psoriasis or acne, moderately severe, and the deeply pitted scars resulting therefrom, vitiligo or other skin defect which is disfiguring or unsightly and bromidrosis, more than mild, are causes for rejection.

HEART AND BLOOD VESSELS: Where there is a history of rheumatic fever or questionable cardiac findings, a thorough investigation will be made, including detailed history, fluoroscopic examination of the heart, a 6-foot chest X-ray film permitting accurate determination of the cardiothoracic ratio, and an electrocardiogram, in addition to a careful general medical examination. Any evidence of organic heart disease will be considered cause for rejection. When a candidate is found to have a systolic blood pressure of 140 millimeters or more, or diastolic of 85 or more, readings will be taken each morning and afternoon over a period of three or more successive days, in order to determine whether the hypertension is persistent and, if possible, the cause thereof. Persistent blood pressure, systolic 140 millimeters or more, diastolic 90 millimeters or more, on repeated examination is a cause for rejection. All readings will be taken with the individual relaxed and in the sitting position after a period of normal physical activity. A period of recumbency will not be resorted to prior to taking readings. Pulses of the upper and lower extremities should

be palpated and the hands and feet should be observed for abnormalities of color and temperature, and for pallor on elevation. The absence of a pulse or the presence of pallor or temperature change will be cause for a more detailed vascular evaluation.

Varicosities of any extremity unless correctible by treatment or mild in degree are cause for rejection. Resultant pigmentation, dermatitis, ulceration, demonstrable edema, or pain substantiated by medical evidence, are causes for rejection.

SEROLOGIC TESTS: A serologic test for syphilis is performed on all candidates. An authentic history of syphilis of any type is cause for rejection without further laboratory procedure.

GENITOURINARY SYSTEM: Persistent albuminuria of any type or the persistence of casts in the urine will be cause for rejection, even though the etiology cannot be determined. Other causes for rejection: phimosis; epispadias or pronounced hypospadias; amputation or deformity of the penis; atrophy, deformity, or maldevelopment of both testicles; or undescended testicles of any degree.

ORTHOPEDIC: Suitable exercises will be employed to determine the strength of the arches. When pes planus is more than mild, a note will be made as to the presence or absence of bulging of the inner border due to rotation or eversion of the astragalus and any callosities. Pes planus more than mild or with marked bulging of the inner border of the astragalus, or weak and painful feet, will be a cause for rejection.

Pes cavus with clawing of the toes and calluses beneath the metatarsal heads is cause for rejection.

Where a history of injury to any joint is elicited, note will be made as to the presence or absence of lateral or other abnormal mobility, stiffness, traumatic arthritis, muscle atrophy, or weakness. X-ray and clinical evaluation will be made, when indicated.

Lateral deviation of the spine from the normal midline of more than 1 inch is cause for X-ray and clinical evaluation.

ASTHMA: Asthma or a history of asthma, except a history of childhood asthma with a trustworthy history of freedom from symptoms since the twelfth birthday, is a cause for rejection.

ABDOMINAL WALL: Hernia of any variety or a history of a recurrent hernia, even though apparently repaired by a second operation, is a cause for rejection.

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MEDICAL QUALIFICATIONS: The Army bases its decision to medically qualify a young man on medical facts revealed in a thorough medical examination. Candidates unable to satisfy the minimum requirements are not suited for commissions in the Regular Army and consequently are not eligible for training at the Military Academy. Some of the causes for rejection listed above are correctible. The decision to have remediable defects corrected rests with the candidate. When these defects are corrected subsequent to an examination, the candidate will submit complete information relative to the corrective procedure to the medical facility conducting the medical qualification examination or to Headquarters, Department of the Army, Washington 25, D.C., ATTN: AGPB–M.

II. Facilities Conducting Qualification Medical Examinations for the U.S. Military Academy

ALABAMA
- Daleville—Fort Rucker

ALASKA
- Anchorage—Fort Richardson

ARIZONA
- Cochise County—Fort Huachuca

CALIFORNIA
- Monterey—Fort Ord
- San Diego—USNH
- San Francisco—Letterman GH
- San Pedro—Fort MacArthur

COLORADO
- Denver—Fitzsimons GH

FLORIDA
- Jacksonville—USNH, Naval Air Sta.
- Key West—USNH
- Panama City—Tyndall AFB
- Pensacola—USNH
- Tampa—MacDill AFB

GEORGIA
- Atlanta—Fort McPherson
- Columbus—Fort Benning
- Grovetown—Fort Gordon
- Hinesville—Fort Stewart

HAWAII
- Tripler Army Hospital

IDAHO
- Elmore County—Mountain Home AFB

ILLINOIS
- Highland Park—Fort Sheridan

INDIANA
- Indianapolis—Fort Benjamin Harrison

KANSAS
- Junction City—Fort Riley
- Leavenworth—Fort Leavenworth

KENTUCKY
Hardin County—Fort Knox
MARYLAND
Odenton—Fort George G. Meade
MASSACHUSETTS
Ayer—Fort Devens
Boston—Army Base
Chelsea—USNH
MICHIGAN
Mount Clemens—Selfridge AFB
MISSISSIPPI
Biloxi—Keesler AFB
MISSOURI
Waynesville—Fort Leonard Wood
MONTANA
Great Falls—Malmstrom AFB
NEBRASKA
Omaha—Offutt AFB
NEVADA
Las Vegas—Nellis AFB
NEW JERSEY
Oceanport—Fort Monmouth
Wrightstown—Fort Dix
NEW MEXICO
Roswell—Walker AFB
NEW YORK
Governors Island—Fort Jay
West Point—U.S. Military Academy
NORTH CAROLINA
Fayetteville—Fort Bragg
OHIO
Columbus—Lockbourne AFB
Dayton—Wright-Patterson AFB
OKLAHOMA
Lawton—Fort Sill
PENNSYLVANIA
Carlisle—Carlisle Barracks
Philadelphia—USNH, 17th and Pattison Ave.
Phoenixville—Valley Forge GH
PUERTO RICO
San Juan—Fort Brooke

RHODE ISLAND
Newport—USNH
SOUTH CAROLINA
Columbia—Fort Jackson
SOUTH DAKOTA
Rapid City—Ellsworth AFB
TENNESSEE
Clarksville—Fort Campbell
TEXAS
El Paso—William Beaumont GH
Killeen—Fort Hood
San Antonio—Fort Sam Houston
UTAH
Ogden—Hill AFB
VIRGINIA
Fairfax County—Fort Belvoir
Lee Hall—Fort Eustis
Old Point Comfort—Fort Monroe
Petersburg—Fort Lee
WASHINGTON
Tacoma—Fort Lewis
WASHINGTON, D.C.
Walter Reed GH—Physical Examining Center (Outpatient Clinic)
WYOMING
Cheyenne—Warren AFB
CANAL ZONE
Fort Clayton
GERMANY
Heidelberg, USAH
JAPAN
Camp Zama

GH—General Hospital, AH—Army Hospital, AFB—Air Force Base, USNH—U.S. Naval Hospital

III. Examples of Tests used in the U.S. Military Academy Physical Aptitude Examination

A combination of the following tests, which result in the candidate using all of his physical facilities, constitutes the Physical Aptitude Examination of the Military Academy.

(1) Basketball throw for distance using a regulation basketball.

(2) Basketball throw (modified). Regulation basketball is thrown overhand for distance from the kneeling position.

(3) Broad jump for distance, standing.

(4) Broad jump for distance, three in succession. Standing start with three successive broad jumps.

(5) Burpee test for 20 seconds. Continuous movements from the standing position to the squat, to the leaning rest, to the squat, and back to the standing position.

(6) Dipping on parallel bars. Raising and lowering oneself on parallel bars by means of the arms. The body is lowered until upper arm passes the horizontal.

(7) Dodge run. A run through a maze placed on a gymnasium floor.

(8) Hop, step, and jump. With a 10-foot run to a take-off line take a hop, a step, and a jump to gain as great a distance as possible.

(9) Hurdle run. A run through a maze placed on a gymnasium floor.

(10) Medicine ball put. A 6-pound medicine ball is put using the same movement as required for a shotput.

(11) Pull-ups. Chinning oneself on a horizontal bar, grasping bar with back of hand toward face.

(12) Push-ups. Standard push-ups starting from the leaning rest position.

(13) Rope climb (7 seconds). Climb a regulation gymnasium rope as high as possible in 7 seconds, using hands and feet or hands alone, starting from a standing position.

(14) Sit-ups (2 minutes). These are to be performed with a partner holding the feet.

(15) Sit-ups (for speed). These are to be performed in 30 seconds while lying on a gymnasium mat with toe hooked under a bar.

(16) Softball throw. For distance using a regulation softball. (12-inch circumference.)

(17) Running, shuttle. This test is a shuttle run on a gymnasium floor between two turning blocks 25 yards apart.

100 yards.
150 yards.
250 yards.
300 yards.

(18) Running 300 yards on indoor track. 11 laps to the mile.

(19) Vault for height, standing. From a standing position vault over a horizontal bar by touching it with only the hands using either flank or front vault.

(20) Vertical jump. The difference between the height an individual can reach and the height he can jump and reach.

IV. Installations Conducting March Entrance Examinations for the U.S. Military Academy

ALASKA
- Anchorage—Fort Richardson

ARIZONA
- Cochise County—Fort Huachuca

CALIFORNIA
- San Francisco—Letterman GH
- San Pedro—Fort MacArthur

COLORADO
- Denver—Fitzsimons GH

FLORIDA
- Tampa—MacDill AFB

GEORGIA
- Atlanta—Fort McPherson
- Columbus—Fort Benning

HAWAII
- Tripler Army Hospital

ILLINOIS
- Highland Park—Fort Sheridan

INDIANA
- Indianapolis—Fort Benjamin Harrison

KANSAS
- Leavenworth—Fort Leavenworth

KENTUCKY
- Hardin County—Fort Knox

MASSACHUSETTS
- Ayer—Fort Devens

MICHIGAN
- Mount Clemens—Selfridge AFB

MISSISSIPPI
- Biloxi—Keesler AFB

MISSOURI
- Waynesville—Fort Leonard Wood

NEW JERSEY
- Wrightstown—Fort Dix

NEW YORK
Governors Island—Fort Jay
NORTH CAROLINA
Fayetteville—Fort Bragg
OHIO
Columbus—Lockbourne AFB
OKLAHOMA
Lawton—Fort Sill
PENNSYLVANIA
Carlisle—Carlisle Barracks
Phoenixville—Valley Forge GH
PUERTO RICO
San Juan—Fort Brooke
SOUTH CAROLINA
Columbia—Fort Jackson
TENNESSEE
Clarksville—Fort Campbell
TEXAS
El Paso—William Beaumont GH
San Antonio—Fort Sam Houston
UTAH
Ogden—Hill AFB
VIRGINIA
Fairfax County—Fort Belvoir
WASHINGTON
Tacoma—Fort Lewis
WASHINGTON, D.C.
Walter Reed GH—Physical Examining Section (Outpatient Clinic)
CANAL ZONE
Fort Clayton
GERMANY
Heidelberg, USAH
JAPAN
Camp Zama

GH—General Hospital, AH—Army Hospital, AFB—Air Force Base

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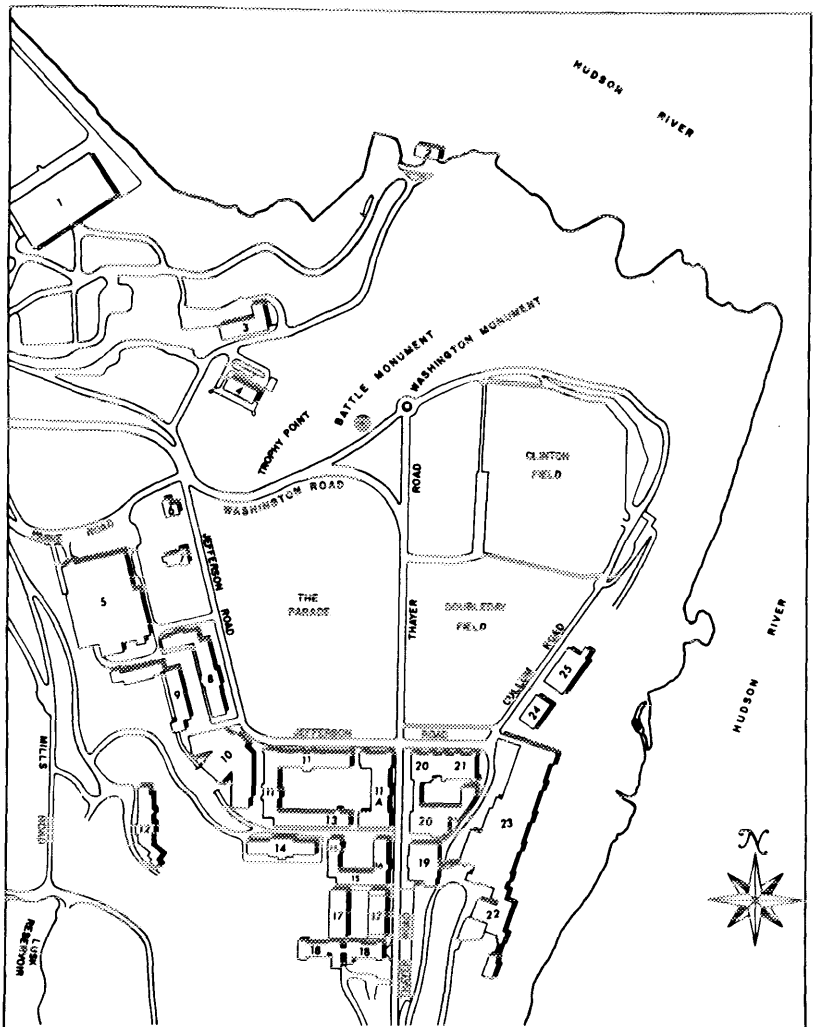

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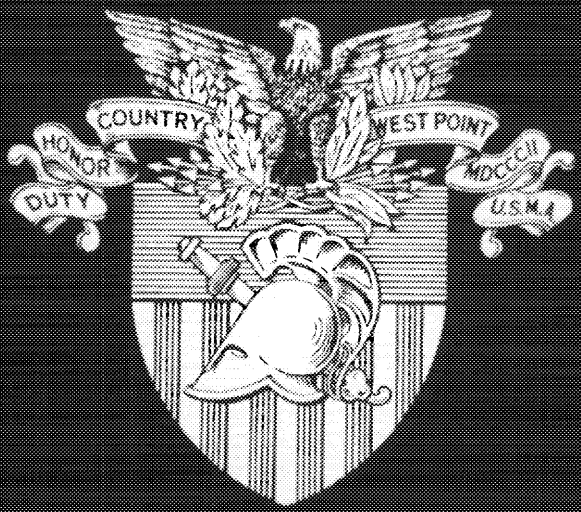
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