

WEST POINT

UNITED STATES MILITARY ACADEMY

ECOM A. WEISS
Librarian, USMA



1971/1972 CATALOG

ONE HUNDRED SEVENTIETH YEAR

CALENDAR 1971

- 1 July, Thursday — Class of 1975 Enters
- 29 August, Sunday — Reorganization Week Begins
- 4 September, Saturday — Reorganization Week Ends
- 6 September, Monday — Labor Day, Holiday
- 7 September, Tuesday — First Term Begins
- 11 October, Monday — Columbus Day, Holiday
- 23 October, Saturday — Homecoming (Classes Suspended)
- 25 October, Monday — Veteran's Day, Holiday
- 25 November, Thursday — Thanksgiving, Holiday
- 27 November, Saturday — Army-Navy Football Game
- 21 December, Tuesday — Christmas Leave Begins (Noon)

1972

- 3 January, Monday — Christmas Leave Ends (5:30 PM)
- 13 January, Thursday — Term End Examinations Begin
- 22 January, Saturday — First Term Ends (Noon)
- 24 January, Monday — Second Term Begins
- 21 February, Monday — Washington's Birthday, Holiday
- 29 March, Wednesday — Spring Leave Begins (3:15 PM)
- 3 April, Monday — Spring Leave Ends (6:00 PM)
- 13 May, Saturday — Armed Forces Day
- 22 May, Monday — Term-End Examinations Begin
- 27 May, Saturday — 2d Term Ends for 1st Class (Noon)
- 29 May, Monday — Memorial Day, Holiday
- 31 May, Wednesday — June Week Begins
- 1 June, Thursday — 2d Term Ends for Under Classes
- 7 June, Wednesday — Graduation Day, Class of 1972
- 3 July, Monday — Class of 1976 Enters

CRITICAL DATES March 1971 - January 1972 — Request nomination from authorized sources.
Write Admissions, USMA, for file initiation.

1 June 1971 — Candidates may begin taking Medical Exams which will be valid for a year.

July 1971 - January 1972 — Receive nomination.

16 October 1971 — American College Testing (ACT) Program Exams.

6 November 1971 — College Entrance Examination Board Testing (SAT. only).

21-23 November 1971 — USMA Candidate Testing (Medical & PAE).

4 December 1971 — College Entrance Examination Board Testing.

11 December 1971 — American College Testing Program Exams.

8 January 1972 — College Entrance Examination Board Testing

9-11 January 1972 — USMA Candidate Testing (Medical & PAE).

13-15 February 1972 — USMA Candidate Testing (Medical & PAE).

26 February 1972 — American College Testing Program Exams.

4 March 1972 — College Entrance Examination Board Testing (Make-Up).

12-14 March 1972 — USMA Candidate Testing (Medical & PAE).

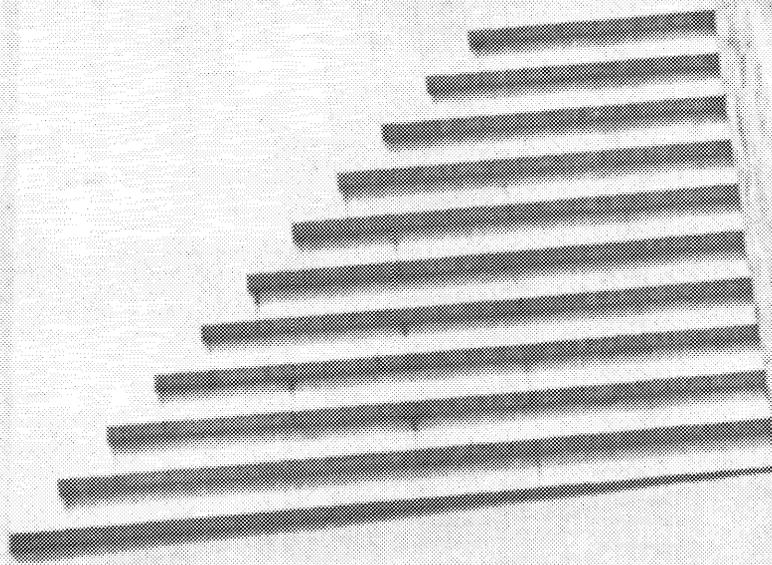
* April 1972 — Candidate Appointment (Offer of Admission to Selected Candidates).

3 July 1972 — New Fourth Class Enters (Class of 1976).

* Early offers of admission are given to outstanding candidates beginning 15 October; waiting-list selections are made during May and June.

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Gentlemen:

For most of you, the time is near when you must make that important decision upon which will be structured the many years of your future. That decision is, of course, your choice of a professional education and career. As you think about the institutions and careers available, I ask you to consider seriously the opportunities offered by the United States Military Academy at West Point. The Academy today is modern in concept, staff, facilities, and training; yet, no other institution in this country can amass the same sentiment, tradition, and challenges.

In concept, West Point is far advanced from the Academy of even 10 years ago; there is a trend today toward individualization and meeting the needs and varying interests of cadets; the core curriculum is augmented by over 130 diverse electives. West Point has some of the finest and most advanced educational and physical development facilities in the world. Although the primary emphasis at West Point is on a strong general education program, training is also stressed; training develops, in the man, leadership qualities, as well as professionalism, character, physical prowess, and a unique regard for duty, honor, and country. Tradition is still highly esteemed and is everywhere apparent — in the unchanging ideals of the worth and potential of young men, in the history which abounds in these Hudson highlands, in the knowledge of the accomplishments of Academy graduates.

A West Point education ultimately prepares the young man for a career in the service of his country, and offers him the challenges, excitement, diversity, idealism, and rare gratifying sense of accomplishment that are difficult to find in other careers.

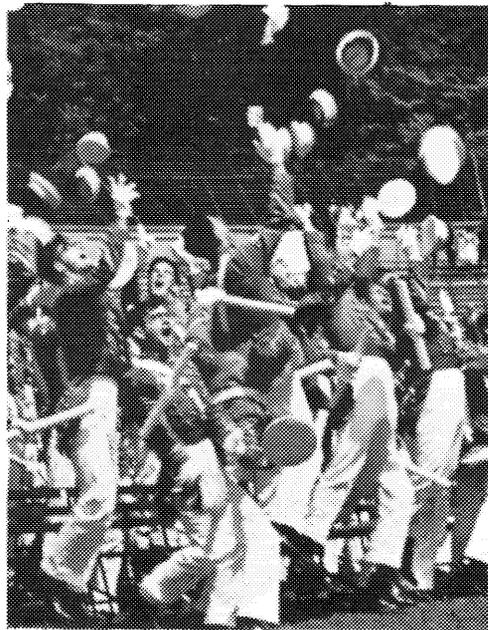
There are many educational and career opportunities open to you today. Most of these opportunities, however, have strong similarities. This is not the case with West Point. As you page through this catalog, I urge you to contemplate carefully the advantages that only West Point can offer.

A handwritten signature in black ink, reading "William A. Knowlton". The signature is written in a cursive style with a large, prominent initial "W".

WILLIAM A. KNOWLTON
Major General, USA
Superintendent

TABLE OF CONTENTS

	Page
Mission	5
Administration	6
History	8
Academic Program	12
Lecture Program	93
Library	97
Graduate Civil Schooling	101
Military Program	104
Counseling and Advising	124
Religious Activities	125
Cadet Activities	127
Intercollegiate Athletics	139
Museum	143
Research	146
Admissions	147
Service Life	164
Appendices	167
Index	208



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 his career as an officer of the Regular Army.

Inherent in this mission are the following objectives:

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

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.

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

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.

Graduation and Conferring of Degree

Each graduate of the United States Military Academy is awarded the Bachelor of Science.

Commissioning of Graduates

Graduated cadets are allowed full pay as second lieutenants from the date of graduation when they are appointed in the Regular Army.



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. The Dean of the Academic Board coordinates the activities of the academic departments and advises the Superintendent on academic matters. The administration and military training of the Corps of Cadets are under the responsibilities of the Commandant of Cadets, who is also head of the Department of Tactics.

SUPERINTENDENT:

Major General William A. Knowlton, USA

DEAN OF THE ACADEMIC BOARD:

Brigadier General John R. Jannarone, USA

COMMANDANT OF CADETS:

Brigadier General Sam S. Walker, USA

CHIEF OF STAFF:

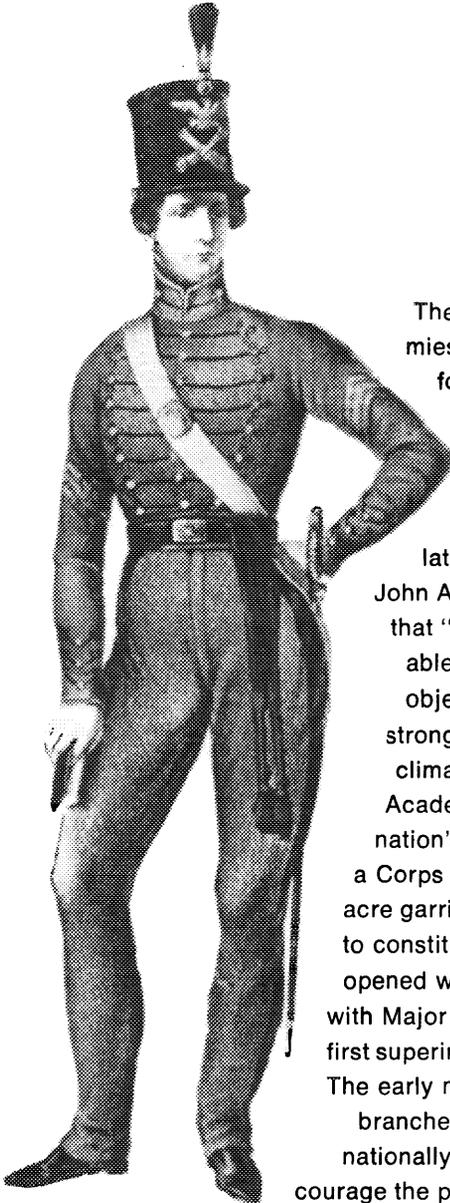
Colonel Edwin H. Marks, Jr., GS

DIRECTOR OF ADMISSIONS AND REGISTRAR:

Colonel Manley E. Rogers, USA



A BRIEF HISTORY OF THE UNITED STATES MILITARY ACADEMY



The United States Military Academy, oldest of the service academies, has provided military leaders for the U.S. Army since its founding on March 16, 1802.

During the early years of our nation's independence, the establishment of a Military Academy had long been considered essential by many of the nation's leaders. Colonel Henry Knox first proposed such an institution in 1776 and was later supported by Thomas Pickering, Alexander Hamilton, and John Adams. George Washington, in one of his last public acts, urged that "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." Because of these strongly held views combined with the volatile international political climate of the late eighteenth century, Congress determined that an Academy devoted to the arts and sciences of warfare would be in the nation's best interests. Thus, on 16 March 1802, Congress authorized a Corps of Engineers to be stationed at West Point, New York (a 1,795 acre garrison site which had been occupied by the Army since 1778) and to constitute a Military Academy. On 4 July 1802, the Academy officially opened with a total complement of fifteen (ten cadets and five officers), with Major Jonathan Williams, grandnephew of Benjamin Franklin, as the first superintendent.

The early mission 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. Henry Adams, the most authoritative historian on that period of American life, wrote in his *History of the United States* that American scientific engineering "owed its efficiency and almost its existence to the military school at West Point."



On 29 April 1812, with the threat of war with England, Congress passed an Act which increased the strength of the Corps of Cadets to 250, enlarged the academic staff, established a set of published regulations to govern the daily lives of cadets, and required that each cadet be taught "all the duties of a private, a non-commissioned officer, and an officer." Graduates served well in the War of 1812, during the critical campaign of which, John Adams wrote, "the West Point Engineers doubled the capacity of the little American Army for resistance."

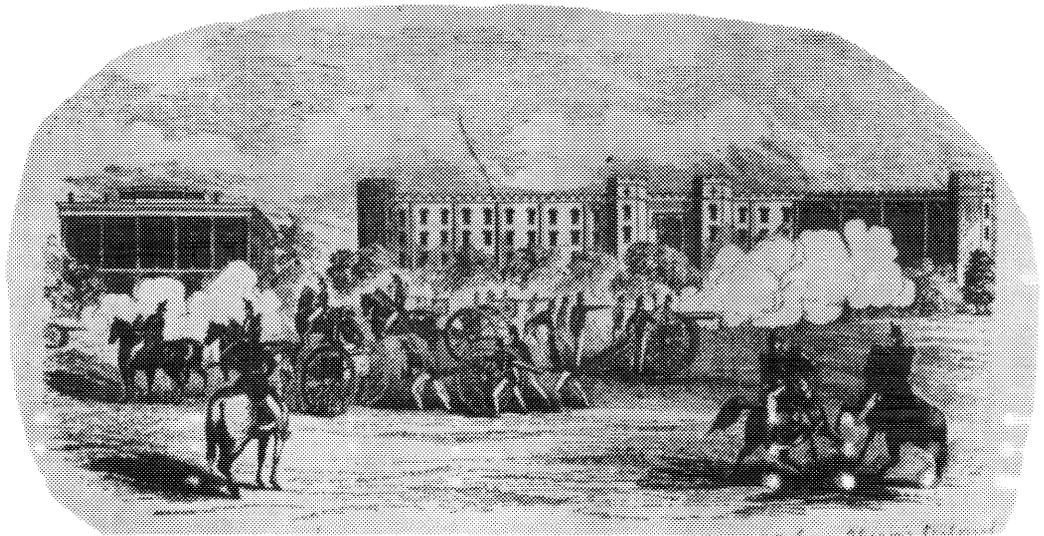
After the War of 1812, the needs of the nation changed, and the young Academy changed with them. Responsible for the innovations at the Academy was Sylvanus Thayer, Superintendent from 1817-1833 and "Father of the Military Academy." The cornerstone of Thayer's philosophy was a demand that cadets possess an excellence of character and an excellence of knowledge. He emphasized habits of regular study, established that every cadet must pass every course or make up his deficiency, and limited classroom sections to from ten to fourteen members. Thayer saw the need of the country for engineers and he established civil engineering as the core of the curriculum; the Military Academy became the nation's first engineering school. Its graduates ranged throughout the globe, applying the engineering principles learned at the Academy to the problems of the new frontiers. Besides undertaking numerous construction jobs necessary to expand the nation's frontiers, Academy graduates also directed such monumental tasks as the construction of the Panama Canal. Thayer's innovations in engineering education led Francis Weyland, President of Brown University from 1827-1855, to say that Military Academy graduates did "more to build up the system of internal improvement in the United States than [the graduates of] all other colleges combined." In October 1965, Thayer was elected to the Hall of Fame for Great Americans at New York University. His insistence on excellence of character and knowledge and many of his educational reforms remain important ingredients of Academy life.

But while improvement in education and excellence in civil engineering were important to the Academy, graduates in the nineteenth century were called repeatedly to serve their country on the fields of battle. The Civil War saw West Point graduates serving with distinction on both sides: Grant, Sherman, Sheridan, Meade, Lee, Jackson, Ewell, and Longstreet, to name a few.

During the Civil War period, the education of the Regular Army Officer at West Point underwent continuous changes. The birth of new technical and engineering schools in the United States allowed the Academy to drop its emphasis on a strictly civil engineering curriculum. Also, since several Army postgraduate schools had been established, USMA began to be looked upon as the first step in a continuing Army education.

The Academy's centennial in 1902 signalled the beginning of more changes. A new physical plant was constructed, using the Gothic architectural style. The Honor System grew stronger as cadets, themselves, began to administer it. General Albert L. Mills, the Superintendent, reassessed the military and the academic training program curriculum. The academic curriculum underwent a gradual liberalization until the outbreak of World War I; liberal arts subjects — English, foreign languages, history, and the social sciences — were strengthened or added to the course requirements.

In World War I, Academy graduates served with the Allied Expeditionary Forces (to include its commander, General of the Armies John J. Pershing). Although the four-year course at West Point was shortened to meet the demands of the war, it was quickly re-established at four years upon termination of hostilities. Responsible for the continued development of the Academy after World War I was General of the Army Douglas MacArthur, who became superintendent on 12 June 1919. MacArthur quickly re-established pre-war academic standards. He instituted fundamental changes in the physical fitness and intramural athletic programs and introduced more liberal education into the curriculum. He also eliminated much of the personally degrading physical hazing.





The list of graduates serving in World War II is long and distinguished — Eisenhower, MacArthur, Bradley, Arnold, Clark, Patton and Wainwright — to name but a few. Although the post-World War II period was one of few changes, save reverting again to a four-year course, shortly after the close of the Korean War a comprehensive, four-year, study was made of the entire curriculum and training program. As a result, in 1961, the Academy offered elective study programs for the first time. Curriculum changes continued throughout the 1960's as the Academy sought to continue to provide cadets with a broad educational background and at the same time to offer an increasing number of elective programs to fit expanding cadet interests and aptitudes. For the first time, cadets were allowed to validate courses and substitute electives of their own choosing. Today, although cadets must still complete a basic core curriculum, they may elect to specialize in one of four major study programs.

In 1964, President Johnson signed a bill increasing the authorized strength of the Corps of Cadets from 2529 to 4417. To keep pace with the expanded curriculum and the increase in the size of the Corps, a major expansion of the Academy's physical plant was begun in mid-1964, and it is expected that the expansion of both the Corps of Cadets and the physical plant of the Academy will be completed by 1972.

The academic and military training program at West Point is a vital one that is continuously examined and adjusted to the changing times. Among the more noted, recent West Point graduates are Astronauts Frank Borman, Edwin "Buzz" Aldrin, and the late Edward H. White, II, all of whose accomplishments exemplify the soundness of the West Point system: a vital, continuously examined and adjusted academic and military training program, built on the cornerstone of the Thayer philosophy — leadership strengthened by excellence of character and of knowledge.

ACADEMIC PROGRAM

MISSION

To provide a broad collegiate education leading to the Bachelor of Science degree.

To build an academic foundation for future graduate study.

To stimulate and challenge intellectual curiosity and individual talents.

To develop powers of analysis, reasoning, and expression.

To contribute to the building of character.

Educational Philosophy 13

Academic Board 14

**Academic Curriculum
Core and Elective Programs** 17

**Areas of Concentration
and Associated Elective Fields** 21

Elective Courses 21

Academic Departments 25



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.

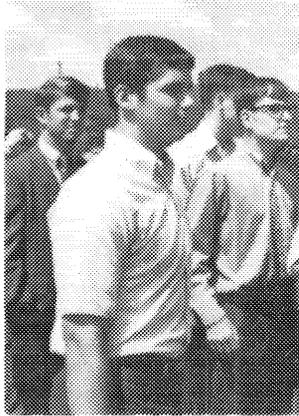
The total curriculum is designed to develop those qualities of character, intellect, and physical competence needed by the officer who is prepared to lead the smallest combat unit or to advise the highest governmental council. The program includes the sciences, the humanities, and military and physical 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 intra-mural 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.



THE ACADEMIC BOARD

The Academic Board establishes standards and procedures for admission, readmission, advanced placement, validation, academic proficiency, advancement from class to class, graduation, and for granting diplomas and commissions. The Board recommends separation of cadets for deficiency in academic studies, in conduct, in physical education, and in aptitude for the service. The Board approves courses of instruction, methods of instruction, schedules of instruction, and changes in institutional facilities.

MAJOR GENERAL WILLIAM A. KNOWLTON
Superintendent

BRIGADIER GENERAL JOHN R. JANNARONE
Dean of the Academic Board

BRIGADIER GENERAL SAM S. WALKER
Commandant of Cadets and Head of the Department of Tactics

COLONEL CHARLES R. BROSHOUS

Professor and Head of the Department of Earth, Space and Graphic Sciences

COLONEL WALTER J. RENFROE, JR.

Professor and Head of the Department of Foreign Languages

COLONEL EDWIN V. SUTHERLAND

Professor and Head of the Department of English

COLONEL JOHN H. VOEGTLY

Professor and Head of the Department of Military Hygiene

COLONEL JOHN S. B. DICK

Professor and Head of the Department of Mathematics

COLONEL FREDERICK C. LOUGH

Professor and Head of the Department of Law

COLONEL CHARLES H. SCHILLING

Professor and Head of the Department of Engineering

COLONEL AMOS A. JORDAN, JR.

Professor and Head of the Department of Social Sciences

COLONEL ELLIOTT C. CUTLER, JR.

Professor and Head of the Department of Electrical Engineering

COLONEL DONALD G. MAC WILLIAMS

Professor and Head of the Department of Chemistry

COLONEL FREDERICK A. SMITH, JR.

Professor and Head of the Department of Mechanics

COLONEL THOMAS A. GRIESS

Professor and Head of the Department of History

COLONEL EDWARD A. SAUNDERS

Professor and Head of the Department of Physics

COLONEL MANLEY E. ROGERS

Director of Admissions and Registrar, and Secretary to the Academic Board



THE USMA ACADEMIC CURRICULUM

The curriculum offered at the United States Military Academy, leading to a Bachelor of Science Degree, is the product of an evolutionary development which, over the years, has reflected the changing requirements of the military profession and advances in the field of higher education. It includes a combination of courses from the liberal arts, the humanities, the sciences, and the engineering sciences which, in their aggregate, comprise a basic foundation for a continuing program of education and professional development.

The curriculum consists of two complementary parts: a core program which is essentially prescribed, and an elective program which is, by and large, individually designed. The core program contains the elements of a broad, general education and is designed to give the cadet a fundamental knowledge of the arts and sciences. The elective program enables the cadet to experience a reasonable degree of concentration in areas in which he may have special interests or aptitudes.

The core program and the elective program are, of course, closely linked to one another in the sense that the latter is an extension of the former. Thus, the elective program offers the cadet a number of courses in each of four broad areas which have a substantial basis in the core curriculum. These are the Basic Sciences, the Applied Sciences and Engineering, the Humanities, and National Security and Public Affairs.

In the elective program, the individual student is given the option of concentrating his elective choices in one of these areas or of foregoing a concentration and spreading his selections over the entire spectrum of elective offerings. (Although majors and minors are not identified as such, the careful design of an elective program by an individual cadet can result in his completing the equivalent of a minor and, in some cases, approaching the course requirements for a major as defined at many other institutions.)

Most graduates, as part of their career development as Army officers, receive graduate schooling at civilian institutions within a few years of their graduation from the Military Academy. Therefore, one of the primary aims of the curriculum at West Point is to prepare cadets for later admission to graduate schools in civilian universities in fields ranging from science and engineering to the social sciences and humanities.

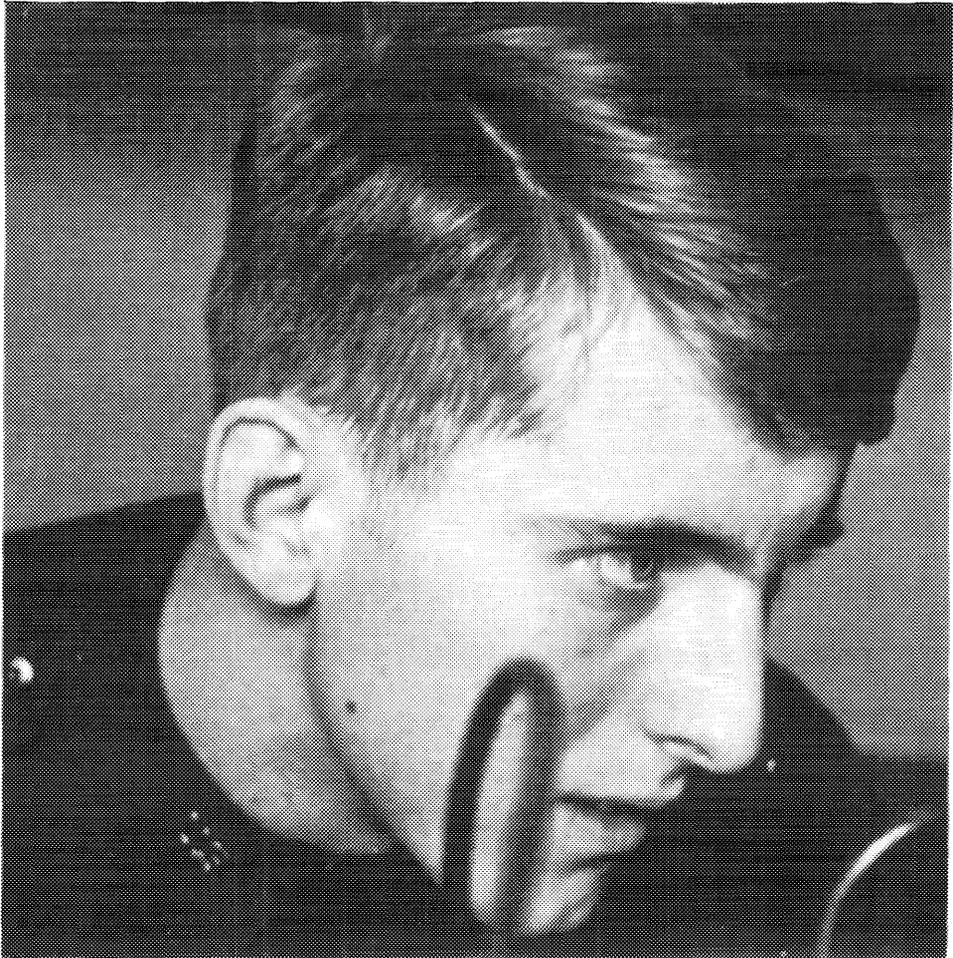


ACADEMIC CURRICULUM

Core and Elective Programs (AY 1971-1972)

THE CORE ACADEMIC PROGRAM

Fourth Class (Freshman) Year	First Term	Second Term
*Mathematics	MA 101	MA 106
*English	EN 101	EN 102
†*Foreign Language	L— 101	L— 102
*Environment	EV 101	EV 102
*Engineering Fundamentals	EF 101	EF 102



Third Class (Sophomore) Year

*Mathematics	MA 205	**MA 206
Physics	PH 201	PH 202
(One sequence to be selected)	or PH 201	PH 204
*Chemistry	CH 201	CH 202
*Foreign Language English	L— 201	L— 202
*Psychology	—	PL 202
*History	HI 201	HI 202
(One sequence to be selected)	or HI 203	HI 204

Second Class (Junior) Year

Electrical Engineering	EE 301	EE 304
*Mechanics	ME 301	**ME 302
*Mechanics	ME 303	—
Physics	—	PH 303
	or —	PH 305
Law	LW 301	LW 302
*Social Sciences	SS 301	SS 302
	Elective	Elective

First Class (Senior) Year

Engineering	*CE 401	*CE 402
(One sequence to be selected)	or CE 453	CE 454
	or *OE 401	*OE 402
	or EE 401	EE 402
	or GE 401	GE 402
Leadership	PL 401	—
English	—	EN 402
*Social Sciences	SS 401	SS 407
*History	HI 401	HI 402
	Elective	Elective
	Elective	Elective

*Advanced versions of these courses are offered to qualified individuals by the department concerned.

**Those cadets enrolled in the Humanities and National Security and Public Affairs areas may substitute electives for these courses.

†The Department of Foreign Languages offers programs in Chinese, French, German, Portuguese, Russian, and Spanish.

ACCREDITATION

The Military Academy is accredited by the Middle States Association of College and Secondary Schools.

VALIDATION AND ADVANCED PLACEMENT

A cadet who has sufficient knowledge of a subject to meet the appropriate department's requirements, may validate core curriculum courses. College Entrance Examination Board Advanced Placement test results should be submitted for validation consideration. However, validation will not result in a reduction of course load. The cadet is required to complete an elective course in lieu of the validated core course. A cadet who has prior knowledge of a subject, although insufficient for validation, or who demonstrates unusual ability, may be enrolled in an advanced course. Advanced courses normally are more intensive than standard courses and cover a broader range of subject material.

Candidates who have attended other colleges before entering the Academy have many opportunities for advanced study. It is important that a candidate complete the term in which he is enrolled and do as well as possible, so he may take advanced and elective courses.

ELECTIVE COURSES

The academic curriculum provides the opportunity for each cadet to take a minimum of six elective courses. Cadets who receive validation credit for core courses will, at some time prior to graduation, take elective courses in lieu of the core courses. *With approval of the Dean, cadets of the upperclasses may take elective courses in addition to their normal course loads.* The elective courses offered are listed in the following pages.

HONORS COURSES

For selected cadets, Honors Courses are offered.

LISTING OF COURSES

Courses are listed by department. First year courses are numbered in the 100's, second year in the 200's, third year in the 300's, and fourth year in the 400's. The second digit indicates the level of the course: 0-standard, 4 or 5-advanced, 7 or 8-elective.

For core 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. A credit hour represents one hour of classroom instruction per week for an eighteen-week term.

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 a 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. Reports of each cadet's academic progress are provided to parents twice each term.

THE AREAS OF CONCENTRATION AND ASSOCIATED ELECTIVE FIELDS

Applied Science and Engineering:

Civil Engineering
Electrical Engineering
Engineering Mechanics
Nuclear Engineering
Weapon Systems Engineering

Foreign Language, German
Foreign Language, Portuguese
Foreign Language, Russian
Foreign Language, Spanish
Literature

Basic Sciences:

Chemistry
Mathematics
Physics

National Security and Public Affairs:

Economics
History
International Affairs
Military Studies
Political Science

Humanities:

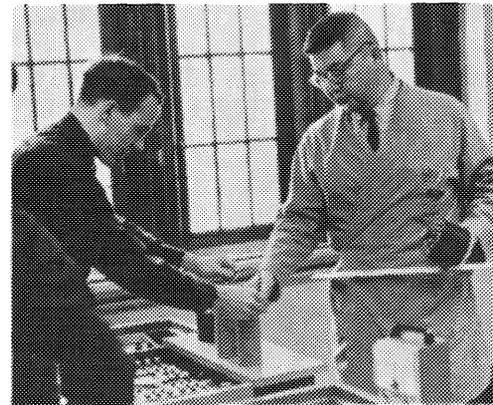
American Studies
Foreign Language, Chinese
Foreign Language, French

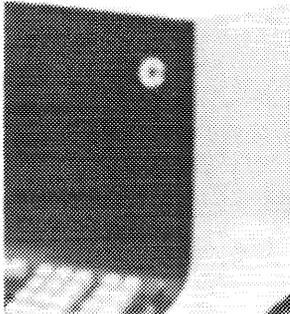
Interdisciplinary Field:

Management

ELECTIVE COURSES APPLIED SCIENCE AND ENGINEERING

CE 381 Soil Mechanics
CE 481 Design of Concrete Structures
CE 482 Advanced Structural Analysis
CE 484 Individual Engineering Project
EE 382 Electromechanical Energy Conversion
EE 383 Electromagnetic Fields
EE 483 Digital Computer Systems
EE 484 Communication Systems
EE 485 Computer Engineering
EE 486 Solid State Electronics
EE 489 Advanced Topics in Electrical Engineering
EF 382 Computer Science Fundamentals
EF 384 Principles of Surveying
EF 489 Individual Computer Science Projects
EV 383 Space Sciences
GE 381 Scientific Management
GE 383 Systems Engineering and Decision Making
ME 384 Mechanics of Materials
ME 471 Aerospace Propulsion
ME 481 Compressible Aerodynamics
ME 482 Heat Transfer
ME 483 Space Mechanics





ME 484	Aerospace Structures
ME 485	Continuum Mechanics
ME 486	Mechanical Vibrations
ME 487	Introduction to Applied Aerodynamics
ME 488	Flight Mechanics
ME 489	Individual Mechanics Project
OE 383	Engineering Materials
OE 385	Management Engineering
OE 481	Automotive Engineering
OE 482	Individual Ordnance Project
OE 487	Operations Research
PH 487	Nuclear Reactor Theory

BASIC SCIENCE

CH 383	Organic Chemistry I
CH 384	Organic Chemistry II
CH 481	Physical Chemistry I
CH 482	Physical Chemistry II
CH 485	Human Biology I
CH 486	Human Biology II
CH 489	Chemistry Research
EF 383	Data Control and Processing with COBOL
EV 388	Physical Geology
EV 489	Individual Research Projects
MA 281	Vector Calculus and Differential Equations
MA 285	Vector Calculus and Complex Analysis
MA 286	Complex Analysis and Differential Equations
MA 481	Linear Programming
MA 482	Abstract Algebra
MA 483	Vector Calculus
MA 484	Differential Equations (Intermediate)
MA 485	Complex Analysis
MA 486	Numerical Analysis with Digital Computation
MA 487	Real Variable Theory
PH 383	Introduction to Theoretical Physics I
PH 384	Introduction to Theoretical Physics II
PH 483	Solid State Physics
PH 484	Quantum Mechanics
PH 486	Experimental Physics
PH 488	Nuclear Physics
PH 489	Special Topics in Physics

HUMANITIES

EN 381	English Literature from the Beginnings to 1660
EN 382	English Literature from 1660 to 1900
EN 383	Contemporary Literature
EN 384	American Literature of the Nineteenth Century

EN 391 Introduction to Fine Arts (overload only)
 EN 392 Introduction to Music (overload only)
 EN 481 The Novel
 EN 482 Shakespeare
 EN 483 Seminar in Aspects of American Culture
 EN 485 Seminar in Major British Authors
 EN 486 Seminar in Major American Authors
 EN 487 American Studies: Expositors of 19th Century American Thought
 EN 488 American Studies: Social Criticism in 20th Century American Prose
 EN 489 Honors Course
 LC 383 Chinese Literature and Culture I
 LC 384 Chinese Literature and Culture II
 LC 485 Readings in Modern Chinese
 LC 486 Chinese Military Readings
 LF 381 French Language through Literature
 LF 382 Military and Scientific Readings in French
 LF 483 History of French Civilization I
 LF 484 History of French Civilization II
 LF 485 Survey of French Literature
 LF 486 Modern French Literature
 LF 487 Directed Studies in French
 LF 488 Directed Studies in French
 LG 381 German Language through Literature
 LG 382 Military & Scientific Readings in German
 LG 483 History of German Civilization
 LG 484 Contemporary Germany
 LG 485 Survey of German Literature
 LG 486 Modern German Literature
 LG 487 Directed Studies in German
 LG 488 Directed Studies in German
 LP 381 Portuguese Language through Literature
 LP 382 Survey of Brazilian Literature
 LP 383 Military Readings in Portuguese
 LP 485 Directed Studies in Portuguese
 LP 486 Directed Studies in Portuguese
 LR 381 Russian Language through Literature I
 LR 382 Russian Language through Literature II
 LR 473 Russian Civilization
 LR 474 Soviet Russian Literature
 LR 475 Military and Scientific Readings in Russian
 LR 476 Soviet Expository Writings
 LS 381 Spanish Language through Literature
 LS 382 Military Readings in Spanish
 LS 483 Survey of Spanish-American Literature
 LS 484 Modern Spanish-American Literature
 LS 485 Survey of Spanish Literature
 LS 486 Modern Spanish Literature



NATIONAL SECURITY AND PUBLIC AFFAIRS

EV 381	Geography of the USSR
EV 382	Geography of Communist China
EV 384	Regional Geography of the U.S.
EV 385	Issues Confronting Man and His Environment
HI 371	History of Russia
HI 372	History of US Foreign Relations
HI 373	Topics in American History
HI 374	Topics in European History
HI 381	Revolutionary Warfare
HI 383	Twentieth Century Warfare
HI 384	Topics in Military History
HI 481	Seminar in History
HI 489	Individual History Project
LW 481	International Law
LW 482	Seminar in Military Aspects of International Law
PL 481	Managerial Psychology
PL 482	Sociology: Society and Culture
PL 483	Social Psychology
PL 484	Military Institutions of U.S.
PL 485	Behavioral Science Research
PL 486	Organization Theory
SS 372	Policy and Administration
SS 373	Political and Economic Application of Quantitative Analysis
SS 383	Middle Eastern Studies
SS 384	Latin American Studies
SS 385	Comparative Economic Systems
SS 386	Political Philosophy
SS 387	Seminar in Public Policy
SS 388	Macroeconomics
SS 389	Managerial Economics
SS 471	Major Political Systems of East Asia
SS 482	Economic Analysis: Theory and Defense Applications
SS 483	National Security Seminar
SS 484	International Economics and Economic Development
SS 485	Problems of the Developing Nations
SS 486	Political and Cultural Anthropology
SS 487	Public Policy, Decision Making and Debate
SS 489	Individual Social Sciences Project



THE ACADEMIC DEPARTMENTS OFFICE OF THE DEAN

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Associate Dean, Associate Professor

COL LEVI A. BROWN, B.S., United States Military Academy; M.S., California Institute of Technology; C.E., Columbia University; Army War College

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Director, Assistant Dean for Academic Research, Permanent Associate Professor

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MAJ JACK A. PELLICCI, B.S., United States Military Academy; M.S., M.E., Georgia Institute of Technology

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Assistant Executive Officer, Assistant Professor

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Deputy Director

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Counselling Officer

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Deputy Director, Assistant Professor

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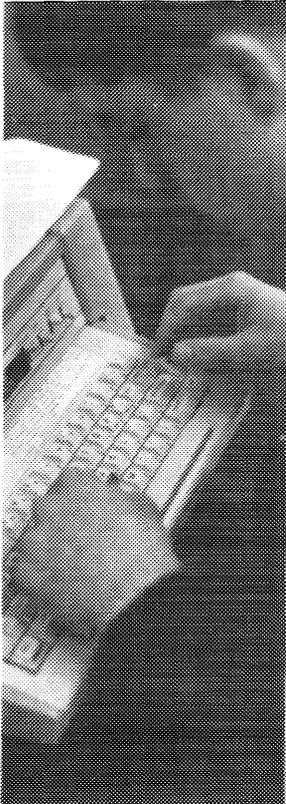
ACADEMIC COMPUTER CENTER

Associate Director, Assistant Professor

MAJ DAVID W. GLEDHILL, B.S., University of Colorado; M.S.E.E., Stanford University

Assistant Director, Assistant Professor

CPT LANSE M. LEACH, B.S., United States Military Academy; M.S., Stanford University



The Academic Computer Center provide its services to all academic departments and activities of USMA for academic-related functions. The services of the Academic Computer Center include providing technical advice and support for instruction in cadet classes and USMA Staff and Faculty courses; operation of the computing facility; and technical consultation to cadets and instructors.

Located on the first floor of Thayer Hall, the Academic Computer Center consists of a large, third-generation computer (GE-635 computer system), a comprehensive time-sharing communications system extending to all academic areas of the Academy, two smaller processors (GE-225 computer systems), and two Computer-Assisted-Instruction (C-A-I) Laboratories equipped with latest inter-active computer terminals and graphic peripheral devices designed specifically to support cadet instruction. The Academic Computer Center's Time-Sharing System supports over 100 remote computer terminals (teletypewriters) located throughout the Academy in most academic departments and in ten "home-based" computer terminal service centers in all academic buildings and most cadet barracks. This capability allows the computer's problem-solving and data reduction capabilities to be brought into conventional classrooms, laboratories, lecture halls, and cadet barracks areas located considerable distances from the Academic Computer Center. When not otherwise in use for direct support of cadet instruction, terminals are available to cadets and instructors for individual problem solving. The Academic Computer Center also uses the capabilities of the USMA closed-circuit television system to display the input and output of a remote teletype terminal to large audiences; has an excellent graphical output capability in its remote analog (X-Y) plotters and Cathode-Ray-Tube Display Computer Terminals; and provides a variety of punched card equipment to include Key-punches, Mark-Sense Card Interpreter/Re-producers, Alphanumeric Interpreters, and a Card Sorter.

The Academic Computer Center is open 151 hours per week during the Academic Year. Its

operation stresses "cadet involvement," which is demonstrated by a "Do-It-Yourself" method of processing cadet computer problems. Using this method, a cadet can run his program personally by using one of the smaller GE-225 computers. All cadets are encouraged to use this method as it permits them to obtain a better appreciation of the computer and gives them better service by reducing turn-around time.

USMA has an interdisciplinary Academic Computer Program designed to accomplish three major goals, which are, briefly stated, as follows:

1. To acquaint each cadet with the capabilities, limitations, and potential of the computer as an increasingly important military tool.
2. To equip each cadet with the ability to perform complex computations rapidly and accurately through intelligent use of the computer.
3. To increase the effectiveness of instructors through use of the computer in a variety of academic disciplines and in many classroom and laboratory situations.

Initial cadet instruction in the use of digital computers occurs during his Fourth Class (freshman) year in courses taught by the Department of Earth, Space, and Graphic Sciences. Each cadet receives instruction in two computer languages. The first of these is a scientific, procedure-oriented language specifically designed to support instruction at USMA, called USMA Standard FORTRAN (a dialect of FORTRAN IV). The second is a relatively new language developed at Dartmouth called BASIC. The basic knowledge is extended through continued computer use in several disciplines. In Mathematics, the cadet is given a series of problems which emphasize fundamental mathematical concepts. The Departments of Physics and Chemistry use the computer as a data reduction tool. The Engineering courses include comparisons of analog and digital computer solutions. The Departments of Electrical Engineering, Mechanics, History, and Social Sciences encourage cadet computer use. Several elective courses allow cadets with particular aptitude to explore computer science in depth. The use of the computer extends into areas outside of the sciences, such as psychology, tactics, and humanities.

INSTRUCTIONAL TECHNOLOGY CENTER

Associate Director, Assistant Professor

MAJ JAMES D. BAKER, B.A., University of Alabama; M.S., University of Southern California

Instructor

CPT DENNIS D. WILLIAMS, B.S., University of South Dakota; M.S., University of Southern California

Audio-Visual Production Officer

MR. FURMAN S. BALDWIN, B.A., M.A., University of Buffalo

The United States Military Academy is known for its innovations in educational techniques, and its use of educational resources. A potent educational tool is closed-circuit instructional television. At the Military Academy, instructional television is used as an adjunct to the classroom instructor. Department instructors are developing many new and original methods of using television in a way that integrates its capabilities into time-tested methods of instruction.

Instructional Technology Center facilities include a modern, well-equipped studio and control room with studio cameras, professional video tape recorders, slide and motion picture equipment, and special effects generators. It also produces 16mm educational films, single-

concept, super 8mm films, and multi-image and multi-media instructional programs. A closed-circuit distribution system carries the instructional programs into over 350 classrooms — all of the classrooms in Thayer, Bartlett and Washington Halls — and to the Library and Hospital. Large screen television is available in auditoriums and lecture halls.

As a complement to the studio, which allows the production of professional quality instructional programs, the Center also operates sets of portable equipment, which are designed to permit candid videotaped recordings for classroom or basic physical skills critique. The cadets may operate this television equipment after receiving training.



INSTRUCTOR GROUP

Chief, Assistant Professor

MAJ ROBERT A. KAISER, B.S., E.E., University of Detroit; M.S., Stanford University

Instructor

CPT FREDERICK H. SIFF, B.S., Worcester Polytechnic Institute; M.S., Ph.D., New York University

The Instructor Group prepares and conducts interdepartmental faculty and cadet instruction programs, and provides consultation services and technical assistance in the development, application, and use of computer systems, television, and other educational media in support of cadet instruction or educational research. It administers the Dean's Reading Improvement Program, a developmental reading course for cadets, faculty and staff members and a voluntary, 25-lesson, self-paced program on a space-available basis.

The Dean's Program in Special Skills is a program of academic instruction taught by the Instructor Group and participating academic departments to USMA faculty and staff. Typical courses taught are elementary and advanced computer programming (e.g., FORTRAN, CO-

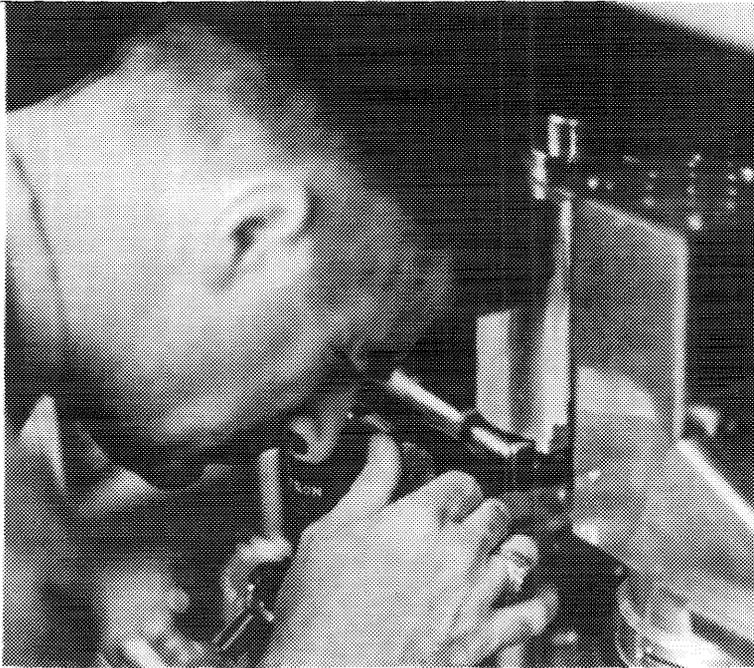
BOL, BASIC), numerical analysis and war gaming. The Dean's Program in Special Skills is offered each Academic Term with courses lasting from four to fifteen weeks.

The Computer Program Library and Reference Library for which the Instructor Group is responsible contain reference material of general-use programs written in FORTRAN and BASIC, and an excellent collection of textbooks in the areas of computer programming (FORTRAN, BASIC, SNOBOL, ALGOL, PL/1, COBOL, etc.), computer applications and algorithms, data processing and information retrieval, instructional technology and media, and reading development. They are operated as a sub-element of the USMA Library and all material is available on temporary loan.

COURSES WITHIN FIELDS OF CONCENTRATION

The following is a listing of courses within each field of concentration in the Academic Program for AY 1971-72.

APPLIED SCIENCE and ENGINEERING AREA



Civil Engineering

Principal

- CE 381 — Soil Mechanics
- CE 481 — Design of Concrete Structures
- CE 482 — Advanced Structural Analysis
- CE 484 — Individual Engr Project
- ME 384 — Mechanics of Materials
- EF 384 — Principles of Surveying
- GE 383 — Systems Engineering and Decision Making

Associated

- EF 382 — Computer Science Fundamentals
- EF 489 — Individual Computer Science Project
- EV 385 — Issues Confronting Man and His Environment
- EV 388 — Physical Geology
- MA 484 — Differential Equations (Intermediate)
- MA 486 — Numerical Analysis with Digital Computation
- ME 484 — Aerospace Structures
- ME 486 — Mechanical Vibrations
- OE 383 — Engineering Materials
- OE 385 — Management Engineering
- GE 381 — Scientific Management

Electrical Engineering

Principal

- EE 382 — Electromechanical Energy Conversion
- EE 383 — Electromagnetic Fields
- EE 484 — Communication Systems

Associated

- EE 483 — Digital Computer Systems
- EE 486 — Solid State Electronics
- EE 489 — Advanced Topics in Elec Engr
- EF 382 — Computer Science Fundamentals
- EF 489 — Individual Computer Science Projects
- EV 383 — Space Sciences
- MA 484 — Differential Equations (Intermediate)
- MA 485 — Complex Analysis
- MA 486 — Numerical Analysis with Digital Computation
- ME 486 — Mechanical Vibrations
- OE 383 — Engineering Materials
- PH 483 — Solid State Physics
- PH 484 — Quantum Mechanics
- EE 485 — Computer Engineering

Engineering Mechanics

Principal

- ME 384 — Mechanics of Materials
- ME 471 — Aerospace Propulsion
- ME 481 — Compressible Aerodynamics
- ME 482 — Heat Transfer
- ME 483 — Space Mechanics
- ME 484 — Aerospace Structures
- ME 485 — Continuum Mechanics
- ME 486 — Mechanical Vibrations
- ME 487 — Introduction to Applied Aerodynamics
- ME 488 — Flight Mechanics
- ME 489 — Individual Research Project

Associated

- EF 382 — Computer Science Fundamentals
- EE 402 — Automatic Control Systems
- EV 383 — Space Sciences
- CE 381 — Soil Mechanics
- CE 481 — Design of Concrete Structures
- CE 482 — Advanced Structural Analysis
- MA 481 — Linear Programming
- MA 483 — Vector Calculus
- MA 485 — Complex Analysis
- MA 486 — Numerical Analysis w/Digital Computation
- PH 383 — Introduction to Theoretical Physics I
- OE 383 — Engineering Materials
- OE 481 — Automotive Engineering

Nuclear Engineering

Principal

- MA 483 -- Vector Calculus
- ME 384 -- Mechanics of Materials
- ME 482 -- Heat Transfer
- OE 383 -- Engineering Materials
- PH 484 -- Quantum Mechanics
- PH 487 -- Nuclear Reactor Theory
- PH 488 -- Nuclear Physics
- GE 383 -- Systems Engineering and Decision Making

Associated

- CE 484 -- Individual Engineering Project
- EE 401 -- Electronic Circuits
- EE 402 -- Automatic Control Systems
- MA 484 -- Differential Equations (Intermediate)
- MA 485 -- Complex Analysis
- MA 486 -- Numerical Analysis with Digital Computation
- PH 383 -- Introduction to Theoretical Physics I

Weapon Systems Engineering

Principal

- MA 484 -- Differential Equations (Intermediate)
- ME 384 -- Mechanics of Materials
- ME 483 -- Space Mechanics
- ME 484 -- Aerospace Structures
- ME 486 -- Mechanical Vibrations
- OE 383 -- Engineering Materials
- OE 385 -- Management Engineering
- OE 481 -- Automotive Engineering
- OE 482 -- Individual Ordnance Project
- GE 383 -- Systems Engr and Decision Making

Associated

- EF 382 -- Computer Science Fundamentals
- EE 402 -- Automatic Control Systems
- MA 483 -- Vector Calculus
- ME 482 -- Heat Transfer
- OE 487 -- Operations Research
- PL 481 -- Managerial Psychology
- GE 381 -- Scientific Management
- MA 486 -- Numerical Analysis with Digital Comp
- ME 471 -- Aerospace Propulsion
- ME 487 -- Introduction to Applied Aerodynamics
- ME 488 -- Flight Mechanics

BASIC SCIENCE AREA

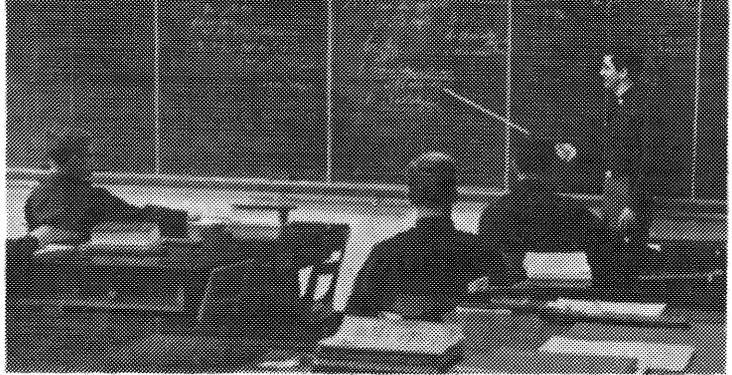
Chemistry

Principal

- CH 383 -- Organic Chemistry I
- CH 384 -- Organic Chemistry II
- CH 481 -- Physical Chemistry I
- CH 482 -- Physical Chemistry II
- CH 489 -- Chemistry Research

Associated

- CH 485 -- Human Biology I
- CH 486 -- Human Biology II
- MA 483 -- Vector Calculus
- PH 484 -- Quantum Mechanics
- PH 488 -- Nuclear Physics
- EF 382 -- Computer Fundamentals
- PH 483 -- Solid State Physics
- EV 385 -- Issues Confronting Man and His Environment



Mathematics

Principal

- MA 281 -- Vector Calculus and Differential Equations
- MA 285 -- Vector Calculus and Complex Analysis
- MA 286 -- Complex Analysis and Differential Equations (Intermediate)
- MA 481 -- Linear Programming
- MA 482 -- Abstract Algebra
- MA 483 -- Vector Calculus
- MA 484 -- Differential Equations (Intermediate)
- MA 485 -- Complex Analysis
- MA 486 -- Numerical Analysis with Digital Computation
- MA 487 -- Real Variable Theory

Associated

- EF 382 -- Computer Science Fundamentals
- EF 489 -- Individual Computer Sci Project
- EE 483 -- Digital Computers
- EE 484 -- Communication Systems
- EV 383 -- Space Sciences
- ME 483 -- Space Mechanics
- ME 485 -- Continuum Mechanics
- ME 486 -- Mechanical Vibrations
- OE 385 -- Management Engineering
- OE 487 -- Operations Research
- PH 383 -- Intro to Theoretical Physics I
- PH 384 -- Intro to Theoretical Physics II
- PH 484 -- Quantum Mechanics
- EF 383 -- Data Control and Proc. with COBOL
- ME 484 -- Aerospace Structures

Physics

Principal

- PH 383 -- Intro to Theoretical Physics I
- PH 384 -- Intro to Theoretical Physics II
- PH 483 -- Solid State Physics
- PH 484 -- Quantum Mechanics
- PH 486 -- Experimental Physics
- PH 487 -- Nuclear Reactor Theory
- PH 488 -- Nuclear Physics
- PH 489 -- Special Topics in Physics

Associated

- EV 383 -- Space Sciences
- MA 483 -- Vector Calculus
- MA 484 -- Differential Equations (Intermediate)
- MA 485 -- Complex Analysis
- ME 483 -- Space Mechanics
- CE 453-454 -- Introduction to Nuclear Physics
- EE 486 -- Solid State Electronics
- OE 383 -- Engineering Materials

HUMANITIES AREA

American Studies

Principal

- EN 384 — AM Lit of the 19th Century
EN 483 — Seminars in Aspects of American Culture
EN 487 — Am Studies: Expositors of 19th Century Am Thought
EN 488 — Am Studies: Social Criticism in 20th Century Prose
EN 489 — Honors Course
EV 384 — Regional Geography of the United States
HI 373 — Topics in American History
SS 387 — Seminar in Public Policy
PL 484 — Military Institutions of U.S.

Associated

- EN 383 — Contemporary Literature
EN 486 — Seminar in Major American Authors
HI 372 — History of U.S. Foreign Relations
HI 383 — 20th Century Warfare
HI 481 — Seminar in History
LW 481 — International Law
LW 482 — Seminar: Mil Aspects of Int'l Law
PL 482 — Sociology: Society and Culture
SS 386 — Political Philosophy
SS 483 — National Security Seminar
EN 391 — Introduction to Fine Arts (overload only)
EN 392 — Introduction to Music (overload only)

Chinese Language

Principal

- LC 383 — Chinese Literature and Culture I
LC 384 — Chinese Literature and Culture II
LC 485 — Readings in Modern Chinese
LC 486 — Chinese Military Readings
Any English course in the 300 or 400 series except EN 391 and EN 392.

Associated

- EV 382 — Geography of Communist China
SS 385 — Comparative Economic Systems
SS 386 — Political Philosophy
SS 484 — International Economics
SS 485 — Problems of Developing Nations
PL 482 — Sociology: Society and Culture
LW 481 — International Law
HI 381 — Revolutionary Warfare
EN 391 — Intro to Fine Arts (overload only)
EN 392 — Intro to Music (overload only)
LW 482 — Seminar in Mil Aspects of Int'l Law
SS 486 — Political and Cultural Anthropology
SS 471 — Major Political Systems of East Asia

French Language

Principal

- LF 381 — French Language through Literature
LF 382 — Military & Scientific Readings in French
LF 483 — History of French Civilization I
LF 484 — History of French Civilization II
LF 485 — Survey of French Literature

- LF 486 — Modern French Literature
LF 487 — Directed Studies in French
LF 488 — Directed Studies in French
Any English elective in the 300 or 400 series, except EN 391 and EN 392.

Associated

- SS 385 — Comparative Economic Systems
SS 386 — Political Philosophy
SS 484 — International Economics
SS 485 — Problems of Developing Nations
PL 482 — Sociology: Society and Culture
LW 481 — International Law
HI 381 — Revolutionary Warfare
EN 391 — Intro to Fine Arts (overload only)
EN 392 — Intro to Music (overload only)
LW 482 — Seminar in Mil Aspects of Int'l Law
SS 486 — Political and Cultural Anthropology
HI 374 — Topics in European History
HI 481 — Seminar in History
HI 489 — Individual History Project (On French Topic)

German Language

Principal

- LG 381 — German Language thru Lit
LG 382 — Military & Scientific Readings in German
LG 483 — History of German Civilization
LG 484 — Contemporary Germany
LG 485 — Survey of German Literature
LG 486 — Modern German Literature
LG 487 — Directed Studies in German
LG 488 — Directed Studies in German
Any English elective in the 300 or 400 series, except EN 391 and EN 392

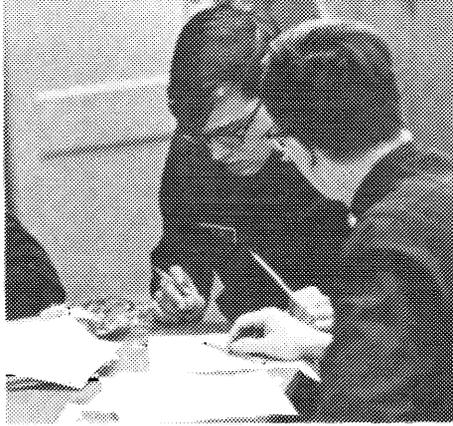
Associated

- SS 385 — Comparative Economic Systems
SS 484 — International Economics
SS 485 — Problems of Developing Nations
SS 386 — Political Philosophy
PL 482 — Sociology: Society and Culture
LW 481 — International Law
EN 391 — Intro to Fin Arts (overload only)
EN 392 — Intro to Music (overload only)
LW 482 — Seminar in Mil Aspects of Int'l Law
SS 486 — Political and Cultural Anthropology
HI 374 — Topic in European History
HI 481 — Seminar in History
HI 489 — Individual History Project (On German Topic)

Portuguese Language

Principal

- LP 381 — Portuguese Language through Literature
LP 382 — Survey of Brazilian Literature
LP 383 — Military Readings in Portuguese
LP 485 — Directed Studies in Portuguese
LP 486 — Directed Studies in Portuguese
SS 384 — Latin American Studies
Any English elective in the 300 or 400 series, except EN 391 and EN 392



Associated

- SS 385 — Comparative Economic Systems
- SS 386 — Political Philosophy
- SS 484 — International Economics
- SS 485 — Problems of Developing Nations
- LW 481 — International Law
- PL 482 — Sociology: Society and Culture
- EN 391 — Intro to Fine Arts (overload only)
- EN 392 — Intro to Music (overload only)
- LW 482 — Seminar in Mil Aspects of Int'l Law
- SS 486 — Political and Cultural Anthropology
- HI 374 — Topic in European History
- HI 481 — Seminar in History
- HI 489 — Individual History Project
(On Portuguese or Brazilian Topic)

Russian Language

Principal

- LR 381 — Russian Language through Literature I
- LR 382 — Russian Language through Literature II
- LR 473 — Russian Civilization
- LR 474 — Soviet Russian Literature
- LR 475 — Military & Scientific Readings in Russian
- LR 476 — Soviet Expository Writings
- HI 371 — History of Russia
- EV 381 — Geography of USSR
- Any English course in the 300 or 400 series, except EN 391 and EN 392

Associated

- SS 385 — Comparative Economic Systems
- SS 386 — Political Philosophy
- SS 484 — International Economics
- SS 485 — Problems of Developing Nations
- PL 482 — Sociology: Society and Culture
- LW 481 — International Law
- HI 381 — Revolutionary Warfare
- EN 391 — Intro to Fine Arts (overload only)
- EN 392 — Intro to Music (overload only)
- LW 482 — Seminar in Mil Aspects of Int'l Law
- SS 486 — Political and Cultural Anthropology
- HI 374 — Topics in European History
- HI 481 — Seminar in History
- HI 489 — Individual History Project
(On Russian topic)

Spanish Language

Principal

- LS 381 — Spanish Language through Lit
- LS 382 — Military Reading in Spanish
- LS 483 — Survey of Spanish-American Lit
- LS 484 — Modern Spanish-American Lit
- LS 485 — Survey of Spanish Literature
- LS 486 — Modern Spanish Literature
- SS 384 — Latin American Studies
- Any English elective in the 300 or 400 series, except EN 391 and EN 392.

Associated

- SS 385 — Comparative Economic Systems
- SS 386 — Political Philosophy
- SS 484 — International Economics and Economic Development
- SS 485 — Problems of Developing Nations
- PL 482 — Sociology: Society and Culture
- LW 481 — International Law
- HI 381 — Revolutionary Warfare
- EN 391 — Intro to Fine Arts (overload only)
- EN 392 — Intro to Music (overload only)
- LW 482 — Seminar in Mil Aspects of Int'l Law
- SS 486 — Political and Cultural Anthropology
- HI 374 — Topics in European History
- HI 481 — Seminar in History
- HI 489 — Individual History Project (On Spanish or Latin American Topic)

Literature

Principal

- EN 381 — English Lit from the Beginnings to 1660
- EN 382 — English Lit from 1660 to 1900
- EN 383 — Contemporary Literature
- EN 384 — Am Lit of the 19th Century
- EN 481 — The Novel
- EN 482 — Shakespeare
- EN 485 — Seminar in Major British Authors
- EN 486 — Seminars in Major American Authors
- EN 488 — Am Studies: Social Criticism in 20th Century Am Prose
- EN 489 — Honors Course

Associated

- EN 487 — Am Studies: Expositors of 19th Century Am Thought
- PL 482 — Sociology: Society and Culture
- Any foreign language courses in the 300 or 400 series for which the individual is qualified.
- SS 386 — Political Philosophy
- EN 391 — Intro to Fine Arts (overload only)
- EN 392 — Intro to Music (overload only)
- HI 373 — Topics in American History
- HI 374 — Topics in European History
- HI 481 — Seminar in History

NATIONAL SECURITY and PUBLIC AFFAIRS AREA

Economics

Principal

- SS 373 — Political and Economic Applications of Quantitative Analysis
- SS 385 — Comparative Economic Systems
- SS 388 — Macroeconomics
- SS 389 — Managerial Economics
- SS 482 — Economic Analysis: Theory and Defense Applications
- SS 484 — International Economics and Economic Development

Associated

- EF 382 — Computer Science Fundamentals
- EV 385 — Issues Confronting Man and His Environment
- GE 381 — Scientific Management
- GE 383 — Systems Engineering and Decision Making
- HI 373 — Topics in American History (when economic history)
- MA 481 — Linear Programming
- OE 385 — Management Engineering
- OE 487 — Operations Research
- PL 481 — Managerial Psychology
- PL 482 — Sociology
- PL 483 — Social Psychology
- PL 486 — Organization Theory
- SS 372 — Policy and Administration
- SS 387 — Seminar in Public Policy
- SS 483 — National Security Seminar
- SS 485 — Problems of the Developing Nations
- SS 487 — Public Policy Decision-Making and Debate
- SS 489 — Individual Social Sciences Project
- EN 483 — Seminar in Aspects of American Culture

History

Principal

- HI 371 — History of Russia
- HI 372 — History of U.S. Foreign Relations
- HI 373 — Topics in American History
- HI 374 — Topics in European History
- HI 381 — Revolutionary Warfare
- HI 383 — Twentieth Century Warfare
- HI 384 — Topics in Military History
- HI 481 — Seminar in History
- HI 489 — Individual History Project

Associated

- EN 381 — English Lit. from 1660 to the Present
- EN 384 — American Lit. of the 19th Century
- EN 391 — Intro to Fine Arts (overload only)
- EN 483 — Seminars in Aspects of American Culture
- EN 487 — Am. Studies: Expositors of 19th Century American Thought
- EN 488 — Social Criticism in 20th Century American Prose
- L — Any Foreign Language elective course using historical materials
- LW 481 — International Law
- LW 482 — Seminar in Military Aspects of International Law

- PL 482 — Sociology: Society and Culture
- PL 483 — Social Psychology
- SS 372 — Policy and Administration
- SS 383 — Middle Eastern Studies
- SS 384 — Latin American Studies
- SS 385 — Comparative Economic Systems
- SS 386 — Political Philosophy
- SS 471 — Political Systems of East Asia
- SS 483 — Seminars in Aspects of American Culture
- SS 486 — Political and Cultural Anthropology
- EN 489 — Honors Course

International Affairs

Principal

- HI 372 — History of U.S. Foreign Relations
- LW 481 — International Law
- SS 373 — Political and Economic Applications of Quantitative Analysis
- SS 471 — Major Political Systems of East Asia
- SS 483 — National Security Seminar
- SS 484 — International Economics and Economic Development
- SS 485 — Problems of Developing Nations
- SS 486 — Political and Cultural Anthropology

Associated

- EV 381 — Geography of the USSR
- EV 382 — Geography of Communist China
- HI 372 — History of Russia
- HI 373 — Topics in American History
- HI 374 — Topics in European History
- HI 381 — Revolutionary Warfare
- HI 383 — Twentieth Century Warfare
- HI 384 — Topics in Military History
- HI 481 — Seminar in History
- HI 489 — Individual History Project
- L — Elective Language Course (300 or 400 series)
- LW 482 — Seminar in Military Aspects of International Law
- PL 482 — Sociology: Society and Culture
- PL 483 — Social Psychology
- PL 484 — Military Institutions of U.S.
- SS 383 — Middle Eastern Studies
- SS 384 — Latin American Studies
- SS 385 — Comparative Economic Systems
- SS 386 — Political Philosophy
- SS 487 — Public Policy Decision-Making and Debate
- SS 489 — Individual Social Sciences Project

Military Studies

Principal

- HI 381 — Revolutionary Warfare
- HI 383 — 20th Century Warfare
- HI 384 — Topics in American History
- HI 481 — Seminar in History (on militarily-related topic)
- HI 489 — Individual History Project
- PL 482 — Sociology: Society and Culture
- PL 484 — Military Institutions of U.S.
- SS 483 — National Security Seminar

Associated

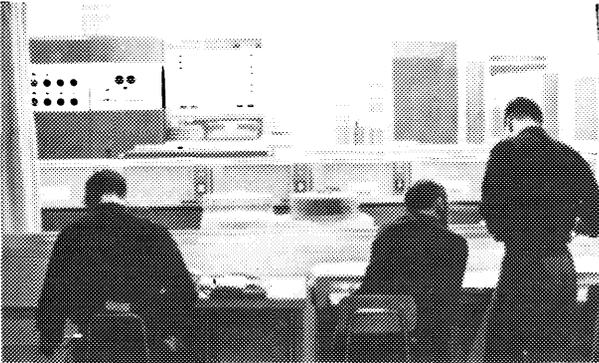
- HI 372 — History of U.S. Foreign Relations
- HI 373 — Topics in American History
(on militarily-related topic)
- HI 374 — Topics in European History
(on militarily-related topic)
- L — Any Foreign Language elective
course in military readings
- LW 481 — International Law
- LW 482 — Seminar in Military Aspects of
International Law
- PL 483 — Social Psychology
- PL 486 — Organization Theory
- SS 482 — Economic Analysis: Theory and
Defense Application
- SS 485 — Problems of Developing Nations

Political Science**Principal**

- PL 486 — Organization Theory
- SS 372 — Policy and Administration
- SS 373 — Political and Economic Applications
of Quantitative Analysis
- SS 386 — Political Philosophy
- SS 387 — Seminar in Public Policy
- SS 483 — National Security Seminar
- SS 485 — Problems of Developing Nations
- SS 486 — Political and Cultural Anthropology

Associated

- EN 483 — Seminar in Aspects of
American Culture
- EV 385 — Issues Confronting Man and
His Environment
- HI 371 — History of Russia
- HI 372 — History of U.S. Foreign Relations
- HI 373 — Topics in American History
- HI 374 — Topics in European History
- HI 381 — Revolutionary Warfare
- HI 383 — Twentieth Century Warfare
- HI 384 — Topics in Military History
- HI 481 — Seminar in History
- HI 489 — Individual History Project
- LW 481 — International Law
- PL 482 — Sociology: Society and Culture
- PL 484 — Military Institutions of U.S.
- SS 383 — Middle Eastern Studies
- SS 384 — Latin American Studies
- SS 385 — Comparative Economic Systems
- SS 388 — Macroeconomics
- SS 471 — Major Political Systems of East Asia
- SS 482 — Economic Analysis: Theory and
Defense Applications
- SS 484 — International Economics and
Economic Development
- SS 487 — Public Policy Decision-Making
and Debate
- SS 489 — Individual Social Sciences Project
- PL 483 — Social Psychology

**INTERDISCIPLINARY FIELD OF STUDY**

(Not Associated with an Area of Concentration)

Management**Principal**

- EF 382 — Computer Science Fundamentals
- EF 383 — Data Control and Processing
with COBOL
- GE 381 — Scientific Management
- GE 383 — Systems Engr and Decision Making
- MA 481 — Linear Programming
- OE 385 — Management Engineering
- OE 487 — Operations Research
- PL 481 — Managerial Psychology
- PL 486 — Organization Theory

- SS 389 — Managerial Economics
- SS 482 — Economic Anal: Theory and
Defense Applications
- SS 373 — Political and Economic Applications
Quantitative Analysis

Associated

- MA 486 — Numerical Anal with Digital Comp
- PL 482 — Sociology: Society and Culture
- PL 484 — Military Institutions of U.S.
- PL 483 — Social Psychology
- SS 372 — Policy and Administration
- SS 489 — Individual Social Sciences Project

DEPARTMENT OF CHEMISTRY



Professor and Head of Department

COL DONALD G. MacWILLIAMS, B.S., United States Military Academy; M.S., Ohio State University; PhD., Rensselaer Polytechnic Institute

Associate Professors

COL WILFORD J. HOFF, JR., B.S., The Citadel; M.A., PhD., Princeton University

MAJ FRANCIS M. DUREL, B.S., Spring Hill College; M.S., University of Alabama

Assistant Professors

MAJ THOMAS J. HAYCRAFT, B.S., United States Military Academy; M.S., United States Naval Postgraduate School

MAJ JOHN C. McNERNEY, B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute

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MAJ ROBERT D. ORTON, B.S., University of Texas; M.S., Rensselaer Polytechnic Institute

MAJ JAMES H. SHEGOG, B.S., Central State College; M.S., The Ohio State University

MAJ KENNETH C. ZAHN, B.S., B.S. Ed., M.S., University of Arizona; PhD., University of Illinois

MAJ JOHN B. ZIMMERMAN, B.S., United States Military Academy; M.S., Pennsylvania State University

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MAJ CHARLES H. ARMSTRONG, B.S., United States Military Academy; M.S., Pennsylvania State University

MAJ BYRON E. BASSETT, B.S., United States Military Academy; M.S., Pennsylvania State University

MAJ RAY W. BILLS, B.S., M.S., Utah State University; PhD., Washington State University

MAJ STANLEY M. CLOUGH, B.S., United States Military Academy; M.S., Pennsylvania State University

MAJ JOHN S. HABLETT, B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute

MAJ MARVIN A. HEIN, B.S., Trinity University; M.S., Johns Hopkins University
MAJ DAVID L. MUNDT, B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute
MAJ GEORGE F. PALLADINO, B.S., Sienna College; M.S., University of Massachusetts
MAJ ROBERT C. PALMER, B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute
MAJ ROBERT B. SZYDLO, B.S., DePaul University; M.S., Johns Hopkins University
MAJ TIMOTHY R. YOUNG, B.S., United States Military Academy; M.S., Johns Hopkins University
CPT JERRY L. SELF, B.S., North Carolina State University; M.S., Pennsylvania State University



Standard Course

CH 201-202 General Chemistry

A two-semester course in general college chemistry with emphasis on the fundamental concepts, principles, theories, and laws of chemistry, to include an introduction to organic and nuclear chemistry. An integrated laboratory program includes practical exercises illustrating fundamental chemical theory discussed in the classroom and an introduction to qualitative analysis. Experiments stress investigative techniques, observation and interpretation of data, and the drawing of conclusions from these data.

8 Credit Hours.

Advanced Course

CH 251-252 Advanced General Chemistry with Analysis

A rigorous treatment of the fundamental principles of modern chemistry. Topics covered include elementary quantum theory, atomic structure, the chemical bond, gases, crystal structure, solutions, elementary thermodynamics, kinetics, equilibrium, descriptive chemistry of the elements, electrochemistry, complex ions, and elements of organic and nuclear chemistry. An integrated laboratory program includes experiments of a quantitative nature which illustrate the fundamental concepts of chemistry and a series of semimicro qualitative analysis exercises stressing equilibrium principles and solution chemistry of various elements.

8 Credit Hours.

Elective Courses

CH 383-384 Organic Chemistry

Prerequisites: CH 202 or CH 252, or validation thereof.

A comprehensive study of the nature, preparation, and reactions of the compounds of carbon. The latest theories of chemical bonding are presented. Emphasis is placed on the relationship of structure to chemical reactivity. The course includes such standard topics in organic chemistry as: aliphatic and aromatic hydrocarbons, alcohols, halides, aldehydes, ketones, acids, and amines, as well as functional derivatives of these classes of compounds. Stereochemistry, reaction mechanisms, and synthesis are also covered in the course. The laboratory program includes the application of modern instrumentation, the typical reactions of functional groups, synthesis, and an introduction to qualitative analysis.

8 Credit Hours.

CH 481-482 Physical Chemistry

Prerequisites: CH 202 or CH 252, or validation thereof.

This course relates certain theoretical aspects to the laws of chemical interaction. The coverage includes such standard topics in physical chemistry as: description of physicochemical systems, chemical thermodynamics, solutions and phase equilibrium, kinetics, changes of state, the phase rule, conductance and ionic equilibria, electrochemistry, quantum chemistry, and spectroscopy. The laboratory program includes experiments which illustrate the fundamental topics through precision measurements, including the application of ultraviolet, visible and infrared spectroscopy. The digital computer is extensively used for automatic data reduction and error analysis in laboratory work.

8 Credit Hours.

CH 485-486 Human Biology

Prerequisites: CH 202 or CH 252, Ph 202 or PH 252, or validation.

This course develops the fundamental principles of human structure and function. With primary emphasis on physiology, it includes sufficient elements of cell morphology and functions, and human anatomy, to preclude the necessity of prior formal training in the biological sciences. Student background in physics and chemistry is utilized to support the inclusion of elements of biochemistry and biophysics in a more advanced approach than is typical of an introductory course in biology. Audio-visual aids, classroom demonstrations, and a small number of laboratory exercises are used to provide some experimental support.

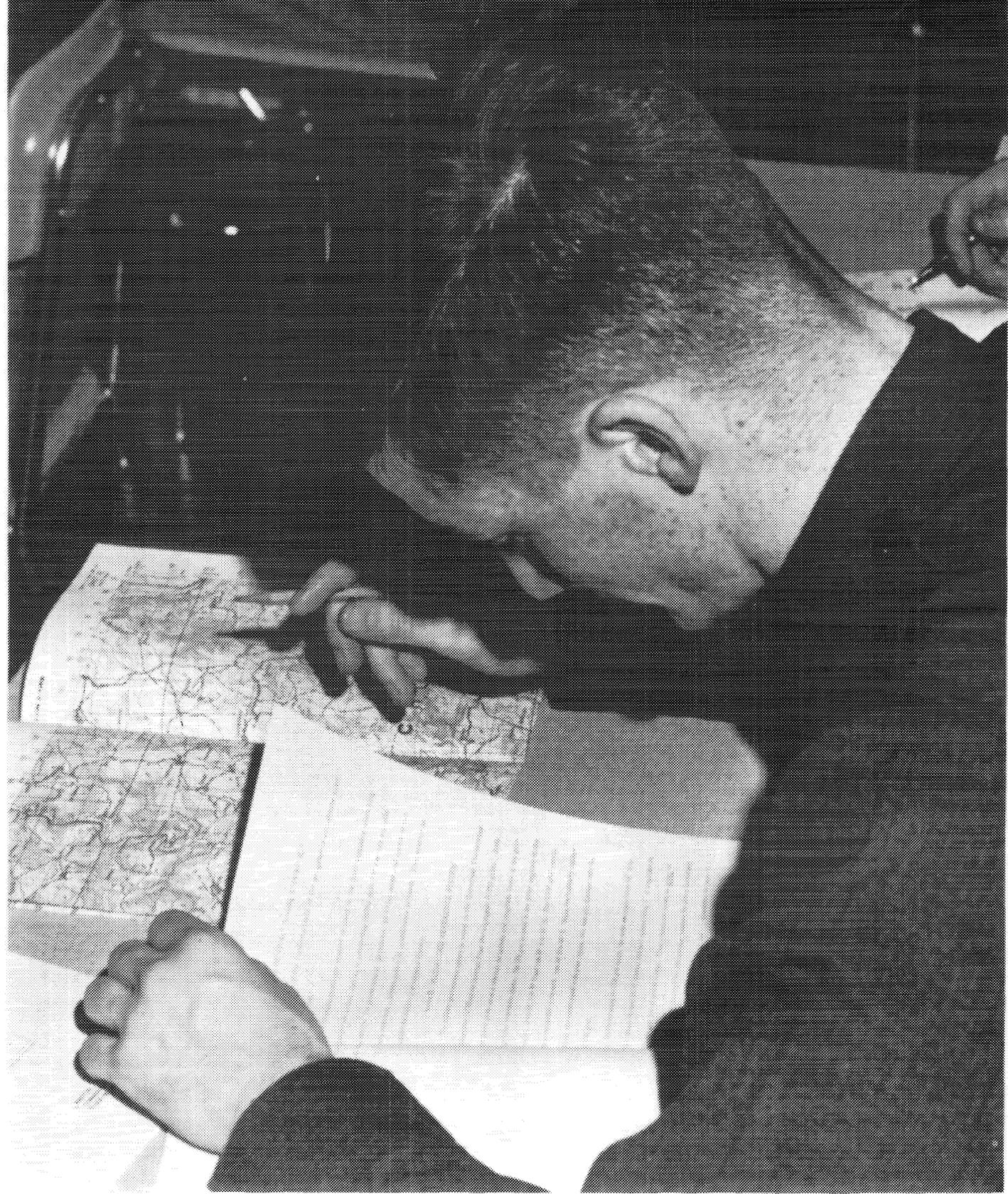
5 Credit Hours.

CH 489 Chemistry Research Project (Either Term)

Prerequisites: CH 384 and CH 482

Individually supervised research in a selected problem area. Research projects are approved by the department and require the cadet to outline his approach, determine necessary laboratory equipment, and evolve the techniques and procedures required. The project terminates in the writing of a research paper covering all aspects of the project.

2.5 Credit Hours.



DEPARTMENT OF EARTH, SPACE AND GRAPHIC SCIENCES



Professor and Head of Department

COL CHARLES R. BROSHOUS, B.S., United States Military Academy; M.S., University of California

Professor and Deputy Head of Department

COL GILBERT W. KIRBY, JR., B.S., United States Military Academy; M.S., California Institute of Technology; Army War College

Associate Professors

LTC DONALD A. CAMPBELL, B.S., Pennsylvania State University; M.S., University of Arizona

LTC JOHN B. GARVER, JR., B.S., United States Military Academy; M.A., Syracuse University

LTC ROBERT A. HEWITT, JR., B.S., United States Military Academy; M.A., Syracuse University

LTC FARRELL G. PATRICK, B.S., United States Military Academy; M.A., Ph.D., American University

MAJ RONALD A. PISTONE, B.S., United States Military Academy; M.S., University of Southern California

MAJ ROBERT G. RHODES, B.S., United States Military Academy; M.A., Syracuse University

Assistant Professors

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MAJ TYRUS R. COBB, JR., B.S., United States Military Academy; M.A., University of Texas

MAJ JAMES B. FAIRCHILD, B.S., United States Military Academy; M.A., University of Michigan

MAJ RICHARD J. GALLIERS, B.S., Ohio State University; M.A., University of Michigan

MAJ JOHNNY R. HUBBARD, B.S., United States Military Academy; M.S., University of Illinois

MAJ RICHARD W. IRWIN, B.S., United States Military Academy; M.S., Air Force Institute of Technology

MAJ VICTOR T. LETONOFF, B.S., United States Military Academy; M.A., University of Texas

MAJ MARK LOWRY, II, B.S., United States Military Academy; M.A., Syracuse University

MAJ DAVID H. MACE, B.S., United States Military Academy; M.S., Ohio State University

MAJ THOMAS H. MAGNESS, III, B.S., United States Military Academy; M.S., University of Wisconsin

MAJ ROBERT E. OSWANDEL, B.S., United States Military Academy; M.S., Georgia Institute of Technology

MAJ DAVIES R. POWERS, B.S., United States Military Academy; M.S., University of Arizona

MAJ WILLIAM A. ROBINSON, B.S., United States Military Academy; M.A., University of Michigan



MAJ FRANCIS R. SCHARPF, B.S., United States Military Academy; M.A., Syracuse University
MAJ GLENN N. SMITH, B.S., United States Military Academy; M.S., Ohio State University
MAJ ROBERT W. SHOHN, B.A., M.A., University of Texas
MAJ KENNETH M. WALLACE, B.S., United States Military Academy; M.S., University of Arizona
MAJ WILLIAM R. WILLIAMSON, B.S., United States Military Academy; M.S., University of Illinois
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Instructors

MAJ ARTHUR S. BROWN, B.S., United States Military Academy; M.S., Ohio State University
MAJ PAUL G. CERJAN, B.S., United States Military Academy; M.S., Oklahoma State University
MAJ JOHN H. DILLEY, JR., B.S., United States Military Academy; M.S., Ohio State University
MAJ DAVID A. DLUZYN, B.S., United States Military Academy; M.S., University of Illinois
MAJ ROGER W. FRANKE, B.S., United States Military Academy; M.S., University of Southern California
MAJ WILLIAM KELLENBERGER, B.S., Norwich University; M.S., Texas A & M University
MAJ ARPAD A. KOPCSAK, JR., B.S., Citadel; M.S., University of Arizona
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MAJ ROBERT H. O'TOOLE, B.S., United States Military Academy; M.S., Stanford University
MAJ LYNNE M. PATTEN, B.S., United States Military Academy; M.S., Georgia Institute of Technology
MAJ ELDON L. PERDEW, B.S., United States Military Academy; M.S., University of Southern California
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CPT ROBERT A. DeLAAR, B.S., United States Military Academy; M.S., Purdue University
CPT CLAUDE M. FLIGG, JR., B.S., United States Military Academy; M.S., Purdue University
CPT BRUCE L. HOWARD, B.S., United States Military Academy; M.S., University of Michigan
CPT ROGER A. LIVINGSTONE, B.S., University of Nebraska; M.A., Syracuse University
CPT FREDERICK M. POPE, B.S., United States Military Academy; M.S., University of Michigan
CPT MICHAEL B. PROTHERO, B.S., United States Military Academy; M.A., Rutgers University
CPT ROBERT B. SINCLAIR, B.S., United States Military Academy; M.S., University of Southern California
CPT DANIEL E. SPEILMAN, JR., B.S., United States Military Academy; M.A., University of Texas

Standard Courses

EF 101 Engineering Fundamentals I

First Term — Prerequisites: None

An introduction to the fundamental engineering techniques with emphasis on the engineering approach to problem solving. Simple problems in conceptual design provide a means for applying analysis, design, and communication skills, and for practicing slide rule operations. Modern engineering materials and manufacturing processes are discussed and demonstrated.

2.5 Credit Hours.

EF 102 Engineering Fundamentals II

Second Term — Prerequisite: EF 101

An introduction to the electronic digital computer with emphasis on programming in the FORTRAN IV language. Practical exercises in the computer laboratory using batch-processing methods and remote terminals develop and reinforce fundamental concepts. Course includes subcourses in the graphical solution of vector problems and an introduction to surveying, the basic measurements and instruments used.

2.5 Credit Hours.





EV 101 Planetary Science

Either Term — Prerequisites: None

The course treats certain physical aspects of earth and atmospheric science which pertain to the Earth as a planet, man's modification of the planet Earth, and the study of other members of the solar system. The principles of Newtonian mechanics are applied to man's space exploration. Emphasis is given to man and nature's role in changing the face of the Earth and attendant environmental problems.

2.5 Credit Hours.

EV 102 World Regional Geography

Either Term — Prerequisites: None

An introductory study of the complexities and diversities of man's physical and cultural environments. The course consists of three parts: topical geography, and the study of one developed and one developing region of the cadet's choice. This approach is used as a basis for systematically analyzing and comparing selected contemporary world regions of greater individual interest while still meeting course objectives.

2.5 Credit Hours.

Advanced Courses

EF 151 Advanced Engineering Fundamentals I

First Term — Prerequisites: Demonstration of a satisfactory degree of proficiency in engineering graphics by passing a special placement examination. Offered in lieu of Engineering Fundamentals 101.

An introduction to the electronic digital computer with emphasis on programming in the FORTRAN IV language. Practical exercises in the computer laboratory using both batch-processing methods and remote terminals develop and reinforce fundamental concepts. Course includes subcourses in graphical analysis, an introduction to plane surveying, and the practical use of the slide rule.

2.5 Credit Hours.

EF 152 Advanced Engineering Fundamentals II

Second Term — Prerequisite: EF 151

The course permits a cadet to investigate and solve basic engineering-type problems as an individual and as a member of a team. Problems are derived from architecture and engineering design with emphasis on graphical techniques as a means of analysis and communication. The course is concluded with oral and written presentations of solutions by the cadet teams.

2.5 Credit Hours.

EV 151 Advanced Planetary Science

First and Second Term — Prerequisite: Strong foundation in physics, astronomy, or earth sciences.

An advanced course for selected cadets with high aptitude for physics, astronomy, or earth sciences. The course encompasses the subject matter of EV 101, but coverage is accelerated and in greater depth with additional studies in astronautics, geo-physics, and environmental problems.

2.5 Credit Hours.

Elective Courses

EF 382 Computer Science Fundamentals

First and Second Term — Prerequisite: EF 102 or 151

A comprehensive study of selected computer science topics with emphasis on programming in the FORTRAN IV language. Use of computer simulation as an aid to decision making in military, business, and engineering operations. Included are the simulation techniques of the Monte Carlo method, random number generations, and a study of information retrieval. Magnetic tape operations and graphical output techniques are introduced.

2.5 Credit Hours.

EF 383 Data Control and Processing with Cobol

First and Second Term — Prerequisite: EF 102 or 151

A comprehensive introduction to the COBOL programming language and its application to large-scale data control and processing techniques. The course includes the COBOL programming techniques for creating, maintaining and processing files of management data, the structure of data files necessary to accommodate large volumes of information, and the fundamentals of information control and retrieval systems.

2.5 Credit Hours.

EF 384 Principles of Surveying

Second Term — Prerequisite: EF 101-102 or 151

This course provides a foundation in the principles of surveying in sufficient depth to permit application to military mapping, construction surveying, artillery firing, optical tooling, and forms for further study in related engineering fields. Course includes a familiarization with the instruments and equipment used in modern civil and military surveying and the theoretical concepts of measurements, probability, and errors, celestial observations, tachymetry, and photogrammetry.

2.5 Credit Hours.

EF 489 Individual Computer Science Project

Second Term — Prerequisites: EF 382 or 383 and permission of the Head of Department.

The course permits advanced or specialized study in meaningful problem areas subject to solution on the electronic digital computer using advanced programming techniques.

2.5 Credit Hours.

EV 381 Geography of the USSR

First Term — Prerequisite: EV 102

A comprehensive treatment of the physical, population, and economic geography of the USSR. Soviet man-land relationships are examined in a regional framework, emphasizing the complexity and diversity of the physical and cultural environments and USSR potential for economic growth.

2.5 Credit Hours.

EV 382 Geography of Communist China

Second Term — Prerequisite: EV 102

A study of the physical and cultural environments of mainland China, emphasizing the physical and resource base, spread and development of early Chinese civilization, current population problems and agricultural-industrial patterns. Included is a comparative analysis of pre-1949 and post-1949 economic development and potential for continued economic growth.

2.5 Credit Hours.

EV 383 Space Science

Second Term — Prerequisites: EV 101-102.

A study of the basic concepts underlying geophysics and astrophysics through a detailed examination of the solar system, including both description and analytical views of man's potential environment beyond Earth.

2.5 Credit Hours.

EV 384 Regional Geography of the United States

First Term — Prerequisite: EV 102

A systematic study of the physical and cultural geography of the United States, emphasizing significant aspects of the physical environment, historic and contemporary settlement, and agricultural-industrial patterns which illuminate regional cultural variation and economic interdependence. Also examined is the impact of an urban-industrialized economy on resource utilization and related man-environment problems.

2.5 Credit Hours.

EV 385 Issues Confronting Man and His Environment

First and Second Term — Prerequisite: EV 101-102

A geographical approach toward the study of the man-environment ecosystem emphasizing technological man's continuing use and misuse of his physical and biotic resources. Case studies in air and water pollution, population-resource balances, urban-industrial complexities, and conflicting views concerning environmental management and problem solving are examined in detail. Field trips provide first-hand exposure to environmental problems in the Mid-Hudson Valley and New York Metropolitan Area.

2.5 Credit Hours.

EV 388 Physical Geology

Second Term — Prerequisite: EV 101-102

A course treating the fundamental principles of physical geology with emphasis on the Earth's primary features and the processes which produce and modify them. Topics include the nature and origin of Earth materials, the composition and structure of the Earth, and the development and description of surface landforms. Local field trips are included.

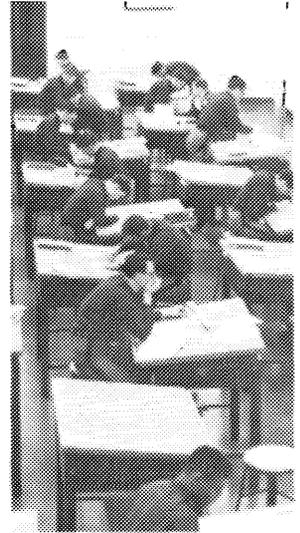
2.5 Credit Hours.

EV 489 Individual Research Project

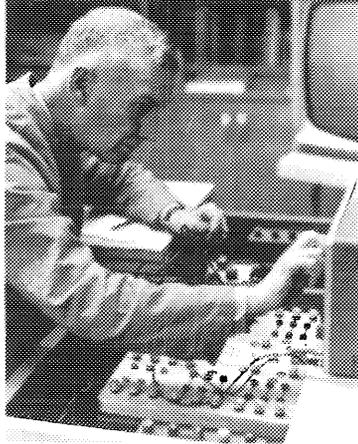
Either Term — Prerequisites: Completion of one elective in related subject and permission of Head of Department

Research projects focused on geographic and environmental problems are designed to support individual student interest and background.

2.5 Credit Hours.



DEPARTMENT OF ELECTRICAL ENGINEERING



Professor and Head of Department

COL ELLIOTT C. CUTLER, JR., B.S., United States Military Academy; M.S.E.E., Ph.D., Georgia Institute of Technology

Associate Professor and Deputy Head of Department

COL STANLEY E. REINHART, JR., B.S., United States Military Academy; M.S.E.E., Ph.D., Georgia Institute of Technology

Associate Professors

COL ROBERT B. ANDREEN, B.S., United States Military Academy; M.S.E.E., Ph.D., Georgia Institute of Technology

LTC JOHN J. RAMSDEN, B.S., United States Military Academy; M.S.E., Purdue University

LTC MARSHALL L. MOORE, B.S., United States Military Academy; M.S.E.E., Georgia Institute of Technology

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Assistant Professors

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MAJ GERALD CHAPMAN, JR., B.S., United States Military Academy; M.S.E.E., North Carolina State University

MAJ WILLIAM J. D'AMBROGIO, B.S., Pratt Institute; M.E.E., Stevens Institute of Technology

MAJ WILL M. REMINGTON, B.S., United States Military Academy; M.S.E., Purdue University

MAJ CYRUS N. SHEARER, B.S., United States Military Academy; M.S.E.E., Georgia Institute of Technology

Instructors

MAJ GORDON W. ARBOGAST, B.S., United States Military Academy; M.S.E.E., Georgia Institute of Technology

MAJ ROBERT BRUCE, B.S., United States Military Academy; M.S.E.E., Georgia Institute of Technology

MAJ RALPH W. GARENS, B.S., United States Military Academy; M.S.E.E., Purdue University

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MAJ DAVID K. SALLEE, B.S., United States Military Academy; M.S.E.E., University of Michigan

MAJ NICOLAS R. VAY, B.S., United States Military Academy, M.S.E.E., Georgia Institute of Technology

CPT DAVID R. BROWN, B.S., United States Military Academy; M.S.E.E., Purdue University

CPT JAMES T. DOYLE, B.S., United States Military Academy, M.S., Massachusetts Institute of Technology

CPT CLARENCE R. LONGCOR, B.S., M.S.E.E., South Dakota School of Mines and Technology

CPT MARTIN J. MICHLIK, B.S., United States Military Academy; M.S.E.E., University of Illinois

CPT ROBERT D. ROOD, B.S., United States Military Academy; M.S.E.E., Purdue University

Standard Courses

EE 301 Electric Circuits

First Term — Prerequisites: PH 202, MA 205, MA 206 or MA 207

A study of electric circuits to include charge, current, and voltage. Kirchhoff's Laws, complex phasor representation, sources, waveforms, instruments, power, resistance, resistive networks and theorems, inductance and capacitance, natural and total response, reactance and impedance, magnetic circuits, coupled circuits, and resonance characteristics. This foundation leads into a detailed study of AC network analysis. Extensive laboratory work throughout the course emphasizes the fundamentals studied and provides a practical working knowledge.

4 Credit Hours.

EE 304 Electronics

Second Term — Prerequisite: EE 301

Concepts of electronic systems are analyzed through a study of signal representation, resonant circuits, and Butterworth filters, simple telephone systems, diode electronics, linear and nonlinear diode circuits, and triode and transistor electronics, parameters, and graphical analysis. The course progresses into equivalent circuits, amplifiers, coupling, gain, and frequency response, feedback amplifiers, oscillators, and modulation and detection. The course concludes with an examination of radio waves and antennas and use of transmitters and receivers. Extensive use of laboratory work is made throughout the course.

4 Credit Hours.

EE 401 Electronic Circuits

First Term — Prerequisite: EE 304

A study of transistor circuits, biasing and stabilization, multielectrode tubes and semiconduc-

tors, Laplace transform, response of amplifiers, coupling, compensation, inductive coupling and tuning, classification of amplifiers, thermal conduction and runaway, complementary symmetry, feedback, and oscillators. Emphasis throughout the course is placed upon design, laboratory construction, and testing of practical circuits.

4 Credit Hours

EE 402 Automatic Control Systems

Second Term — Prerequisite: EE 304

A study of the composition of linear servomechanisms, transfer functions, block diagrams, time and frequency domains, dynamic analysis of systems, Routh-Hurwitz criteria, Nyquist and Bode diagrams, Nichols charts, root-locus plots, performance criteria, steady-state errors, stability, and stabilization and compensation. Laboratory work using an electromechanical servo-trainer system is scheduled throughout the course.

4 Credit Hours.

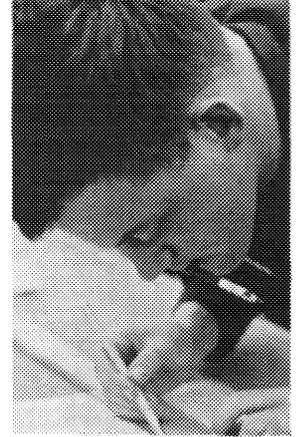
Elective Courses

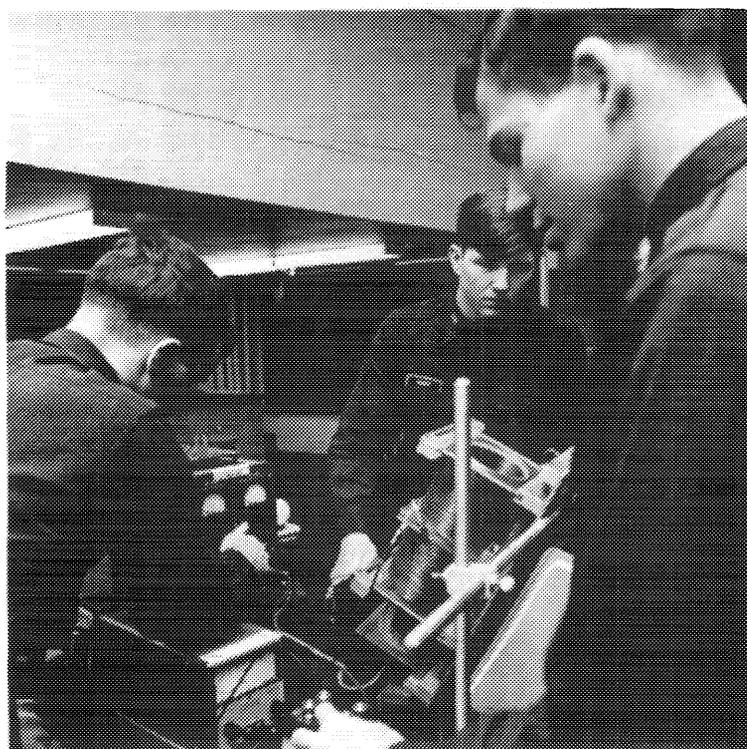
EE 382 Electromechanical Energy Conversion

Second Term — Prerequisite: EE 301

A study of the basic principles of electromechanical energy conversion through a review of magnetic circuits, the principle of virtual work and its application to rotating and translating devices, DC generators and motors, alternators, synchronous motors, induction motors, the general machine, constraints for AC and DC machines, the reluctance motor, and the metadyne. The course concludes with a study of feedback control systems and use of the Laplace transform. Extensive laboratory work throughout the course demonstrates the application of fundamental principles.

4 Credit Hours.





EE 383 Electromagnetic Fields

First Term — Prerequisites: PH 202 and completion or validation of entire core math sequence. A study of static electric and magnetic fields, and time-varying electromagnetic fields using the techniques of vector analysis. After a brief review of vector analysis, the course covers Coulomb's Law and electric field intensity, electric flux density, Gauss's Law, and divergence, energy and potential in the electrostatic field, conductors, dielectrics and capacitance, experimental mapping methods, Poisson's and Laplace's Equations, the steady magnetic field, magnetic forces, materials, and inductance, time-varying fields and Maxwell's Equations, and the uniform plane wave. Selected applications of electromagnetic field theory are then covered including transmission lines, cavities, radiation and antennas, propagation and radar. A limited amount of laboratory work is scheduled.

4 Credit Hours.

EE 483 Digital Computer Systems

First Term — Prerequisite: EF 102 or EF 152
A study of the composition, logical organization, interconnection and operation of the functional elements of a digital computer system. Although emphasis is placed on concepts, laboratory exercises provide for "hands-on" familiarization with computer hardware and individual operation of a small-scale computer. Programming exercises are used to demonstrate hardware-software interface.

2.5 Credit Hours.

EE 484 Communications Systems

First Term — Prerequisite: EE 304 and completion or validation of entire core math sequence. A study of basic concepts of frequency and time domains, types of modulation, network analyses, elements of information theory, noise sources and noise figure, pulse systems, signal to noise ratio, and applications to communications and radar systems. Laboratory work includes several selected exercises illustrating these concepts.

2.5 Credit Hours.

EE 485 Computer Engineering

Second Term — Prerequisite: EE 304

A study of the basic elements used in digital computers, and the manner in which they are interconnected to perform logic operations; circuit families used in the realization of gates, inverters, and flip-flops; economical design of combinational and sequential networks; and structure of computer functional elements for storage and manipulation of data. Laboratory exercises throughout the course provide familiarity with basic circuits as well as the details of logic module interconnection for realization of complex functions.

2.5 Credit Hours.

EE 486 Solid-State Electronics

Second Term — Prerequisites: EE 304 and PH 303

A study of band structure of semiconductors, density of states, Fermi level, mobility, lifetime, recombination and trapping, diffusion and drift, space charge, optical behavior, surface properties and thin films, single-junction devices, including rectifiers, avalanche diodes, field-effect transistors, tunnel diodes, and photodiodes, transistors and multiple-junction devices, fabrication techniques, thin-film networks, and integrated solid-state circuits. Laboratory work throughout the course emphasizes the practical analysis of solid state circuitry.

2.5 Credit Hours.

EE 489 Advanced topics in Electrical Engineering

Either Term — Prerequisites: EE 304 and permission of the Department.

This course provides the opportunity to pursue the study of Electrical Engineering at a higher level than the standard and other elective courses. The detailed subject matter will reflect the interests of the cadets enrolled. Instruction may be in the form of an individual research project, or a formal tutorial course.

2.5 Credit Hours.

DEPARTMENT OF ENGINEERING



Professor and Head of Department

COL CHARLES H. SCHILLING, B.S., United States Military Academy; M.S., University of California; Ph.D., Rensselaer Polytechnic Institute

Associate Professors

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LTC DAVID E. WHEELER, B.S., United States Military Academy; M.S., Massachusetts Institute of Technology

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MAJ KARL M. HENN, B.S., United States Military Academy; M.S., University of Michigan

MAJ JOHN F. GEIGER, B.S., United States Military Academy; M.S.M.E., University of Southern California

MAJ DELMAR A. JOHNS, B.S., University of Wyoming; M.S., University of Arizona

MAJ RICHARD A. ROTHBLUM, B.S., United States Military Academy; M.S., Princeton University

MAJ WILLIAM J. SCHUMACHER, B.S., Lafayette College; M.S., Penn State University

MAJ FRANCIS W. WANNER, B.S., United States Military Academy; M.S., Stanford University

Instructors

MAJ DANIEL P. BUONO, B.S., University of Omaha; M.S., University of Tennessee

MAJ JOSEPH A. JASCEWSKY, B.S., United States Military Academy; M.S.E.S., Purdue University

MAJ JOHN A. KNUTZEN, B.S., United States Military Academy; M.S.C.E., University of California (Berkeley)

MAJ DONALD E. LANDRY, B.S., United States Military Academy; M.S.C.E., Texas A&M University

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CPT GARY A. CECCHINE, B.S., United States Military Academy; M.S.M.E., University of Pittsburgh

CPT WILLIAM S. MILLER, B.S., United States Military Academy; M.S., University of Southern California

CPT FRANCIS R. SKIDMORE, B.S., United States Military Academy; M.S.C.E., Stanford University



Standard Courses

CE 401 Structural Analysis

First Term — Prerequisite: ME 303 or ME 353
A study of the analysis of stresses in statically determinate and indeterminate structures. The course treats the determination of reactions, shear, moment, axial stresses, and live load placement through the use of influence lines. Stresses are analyzed in conventional and special trusses, continuous beams, basic structural frames, long span structures, space frames and cables. Statically indeterminate structures are analyzed by approximate and analytical methods including moment-area theorems, slope deflection, moment distribution, and methods derived from the Law of Conservation of Energy. Throughout the course, development of an understanding of the engineering philosophy and the decision-making process is emphasized.
4 Credit Hours.

CE 402 Structural Design

Second Term — Prerequisite: CE 401
A study of the basic theory as well as the prac-

tical aspects of engineering design and an introduction to systems engineering as it applies to the design process. The course emphasizes structural steel design to include beams, columns, beam-columns, tension members, and structural connections. Timber design of structural members and connections is also studied. The course features a comprehensive design problem which progresses from a basic engineering requirement through the development of a structural concept and the optimization of design parameters to the detailed design of structural members. This problem requires creative thought as well as application of the principles of analysis, design and systems engineering studied previously. Entire course emphasizes engineering philosophy and the process of decision making.
4 Credit Hours.

GE 401-402 General Engineering

Prerequisites: ME 301 and ME 303
This course is designed to develop an understanding of the philosophy of engineering, and an ability to apply logical reasoning processes

specifically to engineering problems, and generally to all problems. The course covers an introduction to systems engineering; weapon system engineering, emphasizing the study of ballistic and rocket systems; and civil engineering systems, which include a study of structural analysis and the design of steel structures. A comprehensive engineering design problem will follow the presentation of course material. This project emphasizes the application of the design process and some optimization techniques leading to the "best" solution to a total engineering system. The final phase of this course is devoted to military oriented subjects such as a brief course in concrete and timber design.

8 Credit Hours.

OE 401-402 Weapon Systems Engineering

Prerequisites: ME 301 and ME 303

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, electronic computers, weapon system components, trajectories, flight stabilization, servomechanisms, guidance, fuzes, terminal ballistic effects, rockets, gas turbines, spark and compression ignition engines, power transmission, engineering materials, terramechanics, and concepts of systems engineering. A Weapon System Design Study includes 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.

Advanced Courses

CE 451 Honors Course in Structural Analysis

First Term — Prerequisites: ME 303 or ME 353 (ME 384 is recommended).

Standing in top 10% of class plus having a demonstrated ability in mathematics, physics and engineering mechanics. Permission of the Head of Department.

In this course the topics cited in CE 401 are covered at an accelerated pace — the pace to be determined by the cadet's individual ability. He is excused from regular classes but meets as required with his advisor on a tutorial basis. Teaching techniques, emphasizing individual study, normally used for graduate studies are employed. Time saved by accelerated study is used to cover each subject in more depth. Additional material includes: numerical integration for shear, moment, and deflection, conjugate beam theory, advanced topics in slope deflection, and moment distribution, Castigliano's Theorem, theorem of least work, matrix methods, and the use of digital computers in the solution of structural analysis problems.

4 Credit Hours.

Note: Interested cadets should contact the department early in the semester preceding the term in which they desire to take the course. The 12 most qualified volunteers, as determined by the Head of the Department, will then be enrolled in CE 451-2.

CE 452 Honors Course in Structural Design

Second Term — Prerequisite: CE 451

In this course the topics cited in CE 402 are covered at an accelerated pace. (See CE 451 description for procedures). Time saved by accelerated study in this course is used to accomplish an individual analytic and/or laboratory project selected by the cadet in accordance with his personal interest.

4 Credit Hours.

CE 453-454 Introduction to Nuclear Engineering

Prerequisites: EL 301-304, ME 301-302, PH 303, PH 487; or the equivalent advanced courses. PH 487 may be taken concurrently with CE 453.

This course introduces the student to the release, control, and utilization of energy from nuclear sources. Nuclear Engineering is treated as an interdisciplinary subject, drawing on the student's background in physics, mathematics, and related engineering science courses. Emphasis is placed on the engineering philosophy involved in the transition from scientific theory to the satisfaction of the needs of society. Major topics covered in the course are: systems engineering, reactor systems and design, heat transfer, radiation shielding, health physics, and engineering economics. Other aspects of nuclear engineering such as nuclear explosives, neutron activation, radiation dosimetry, and application of radioisotopes in medicine are investigated by means of class seminars, guest speakers, and experiments at an operating research reactor. A large part of the second term is spent on a comprehensive design problem which gives first-hand experience in creative engineering as well as insight into the difficulties in designing an optimum system.

8 Credit Hours.

OE 451-452 Honors Course in Weapon Systems Engineering

Prerequisites: Standing in top 10% of class. Permission of the Head of Department.

The Honors Course for exceptionally capable cadets includes all topics listed for the standard course (OE 401-402). The cadet accelerates this study at a pace governed by his own individual capability. A minimum of one class per week is scheduled in lieu of regular class attendances. 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.

8 Credit Hours.





Elective Courses

CE 381 Soil Mechanics

Both Terms — Prerequisite: ME 303 or ME 353

A study of the fundamentals of soil mechanics and their application to engineering problems. The introductory lessons focus on understanding the composition and structure of granular and clay soils. Permeability, compaction, and stabilization, stress distribution, consolidation, shear strength, and bearing capacity are studied. This knowledge, coupled with the principles of engineering mechanics and mathematics, is applied to attacking and solving practical problems in settlement prediction, calculation of seepage, stability of earth dams and embankments, design of footings and pile foundations, retaining walls, and soil stabilization. Basic laboratory work on Atterberg limits, compaction, unconfined compression, flow nets and other tests is included. *2.5 Credit Hours.*

CE 481 Design of Concrete Structures

Both Terms — Prerequisites: ME 303 or ME 353, CE 401 or CE 451 (may be taken concurrently) (ME 384 is recommended).

A study of the theory of reinforced concrete design and analysis, including concrete as a material, laboratory investigations and demonstrations, and the design and analysis of conventional structural elements. The scope includes beams, continuous one-way and two-way slabs, eccentrically loaded columns, retaining walls, and footings. Ultimate strength theory is emphasized. The course culminates in an engineering design problem which utilizes most of the material covered in the course. A small number of selected cadets taking this course in the first term may participate in a research project during the second term under Course CE 484. Application of computers is included wherever appropriate. Emphasis is given throughout the course to the development of an understanding of the philosophy of engineering and the decision-making process. *2.5 Credit Hours.*

CE 482 Advanced Structural Analysis

Second Term — Prerequisite: CE 401 or CE 451 (ME 384 is recommended).

A continuation of the study of structural analysis (CE 401), mainly in the area of indeterminate structures. Methods of analysis appropriate to both the elastic and plastic theory are studied. Direct integration and numerical approximate analysis such as numerical integration of the beam differential equations and the finite difference method are considered. The displacement matrix method of structural analysis is developed. Independent engineering analysis and design problems which require digital computer application are included to emphasize the practical applications of the concepts studied. *2.5 Credit Hours.*

CE 484 Individual Engineering Projects

Either Term — Prerequisites: CE 401, CE 451, or CE 453

A course designed to permit the cadet to concentrate in an area of individual interest dealing with a specialized topic in military or civil engineering, either within or outside the scope of the standard course (CE 401-402). The course is conducted on a small group or individual basis. The scope of the course of study will be established after consultation between the cadet and the Course Director. The course requires the cadet to define and analyze the problem and its parameters; to study the fundamentals involved; to organize his approach; to determine his laboratory procedure if laboratory work is involved; and to achieve a solution. *2.5 Credit Hours.*

GE 381 Scientific Management

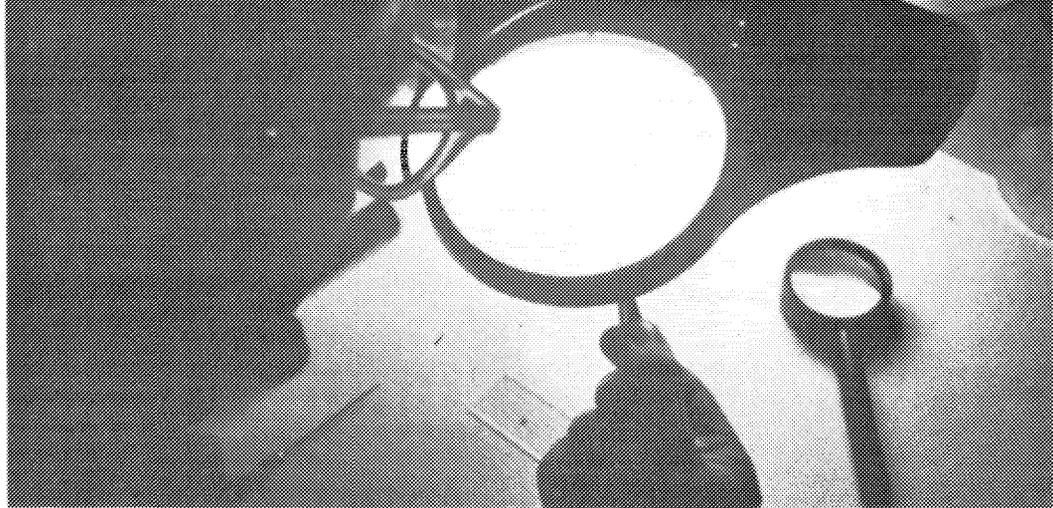
Prerequisite: A subcourse in probability and statistics

This course is designed to provide an interdisciplinary presentation of the fundamental processes and issues of management, unifying the management-related topics presented throughout the total academic program. The course also provides an introduction to the in-depth coverage given by the other electives in the management field. A pragmatic approach will be emphasized by applying the conventional concepts of management theory to obtain practical solutions in realistic management situations. Towards this end, examples will be drawn from industry and the military, the case study technique will be used, and cadets will be exposed to contemporary management literature. *2.5 Credit Hours.*

OE 383 Engineering Materials

Either Term — Prerequisites: CH 201-202

This introductory course encompasses a study of the basic principles that govern the physical and mechanical properties of all metals, plastics, and ceramics. This scientific discipline is the basis for predicting the behavior of available materials and designing new material systems to respond in a particular manner under specified environmental conditions for future engineering applications. Course coverage includes crystal and molecular structures, elastic and plastic behavior, material failure in service, methods to enhance material properties, and microscopic analysis of materials. Integrated laboratory experiments analyze the microscopic and macroscopic structures that determine material properties. *2.5 Credit Hours.*



OE 385 Management Engineering

Either Term — Prerequisite: MA 202

This course provides a comprehensive survey of quantitative methods in management. The purpose is to introduce the analytical approach to command and management problems, develop a facility with certain modern techniques which aid decision making, and improve general managerial abilities. Emphasis is on problem solving from the systems viewpoint. The concepts and techniques developed include: schematic models, decision theory, statistical control, linear programming, inventory control, Monte Carlo simulation, queueing theory, CPM and PERT. The course is pragmatic rather than rigorous and stresses methods currently used to manage military, government and industrial organizations. An educational trip to a nearby industrial activity serves to relate classroom material to actual problems. *2.5 Credit Hours.*

OE 481 Automotive Engineering

Either Term — Prerequisites: ME 301, 303 (ME 303 may be taken concurrently).

The course encompasses the analysis and design of internal combustion engines, power trains, suspension systems, and running gear. The course begins with disassembly, assembly, and trouble-shooting of malfunctions of a reciprocating engine. Laboratory experiments are conducted to determine the influence of speed, fuel-air ratios, and ignition timing on the performance of engines. The study of power trains includes both manual and automatic transmissions. Handling characteristics of vehicles are predicted from analysis of their suspension systems and the influence of running gear upon tractive effort is investigated. The course is concluded by predicting vehicle performance based upon its design. Also included are details of unconventional propulsion systems under development and a discussion of passenger cars for greater occupant safety. *2.5 Credit Hours.*

OE 482 Individual Ordnance Project

Either Term — Prerequisite: Permission of Head of Department.

The objective of the course is to permit advanced or specialized study of scientific principles as 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 Course Director. All material results, whether in the form of hardware or written reports, become the property of the Engineering Department. *2.5 Credit Hours.*

OE 487 Operations Research

Either Term

The Operations Research course develops in considerable depth those quantitative methods which are now well-established and routinely used to analyze and solve managerial-type problems. In addition, it expands on certain quantitative techniques for decision making introduced in OE 385, Management Engineering. The course is initiated with an overview of the decision-making process and a review of probability and statistics. After the introductory phase, the following topics are covered: (1) Sampling Theory, (2) Curve Fitting, (3) Monte Carlo Methods, (4) Inventory Theory, (5) Replacement Theory, (6) Reliability Theory, (7) Maintainability Theory, (8) Queueing Theory, (9) Competitive Strategies, (10) Allocation of Resources and (11) Dynamic Programming. Emphasis is placed on problem identification, word-to-mathematical model transformations, seeking optimum analytical solutions of these models, and verification of solutions. *2.5 Credit Hours.*



DEPARTMENT OF ENGLISH



Professor and Head of Department

COL EDWIN V. SUTHERLAND, B.S., United States Military Academy; M.A., Columbia University; Ph.D., University of Pennsylvania; Army War College

Professor and Deputy Head of Department

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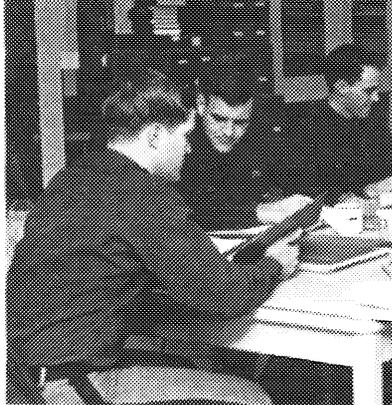
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 MAJ TAREY B. SCHELL, B.S., United States Military Academy; M.A., University of Pennsylvania
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 CPT JOHN K. SWENSSON, B.S., United States Military Academy; M.A., University of Virginia
 CPT EDWARD D. WINSTEAD, B.S., United States Military Academy





Standard Courses

EN 101 Communication Skills:

Logic and English Exposition

First Term — Prerequisites: None

This course is a standard first-semester course in rhetoric and logic with emphasis on the argumentative theme. It stresses the integration of the basic skills needed to evaluate evidence, reach a sound conclusion, and then propound that conclusion, or thesis, in a well-organized theme. *2.5 Credit Hours.*

EN 102 Communication Skills:

Logic and English Exposition

Second Term — Prerequisites: EN 101 or EN 151
This course provides for the continued application of skills developed in EN 101 to a variety of writing situations, a series of public-speaking requirements, and an introductory study of the major forms of imaginative literature.

2.5 Credit Hours.

EN 201 Comparative Literature

First Term — Prerequisites: EN 102 or EN 152
This course examines representative works of literature of the Western world, giving primary emphasis to major recurring human themes. While studying form and content of the assigned works, the student continues to improve writing skill by preparing a research paper and shorter compositions. He practices effective speaking by participating in classroom discussion of the assigned readings. Among the authors included in the course are Homer, Sophocles, Chaucer, Shakespeare, Milton, Goethe, and Conrad.

2.5 Credit Hours.

EN 402 Readings in Philosophy: Inquiries into Ethical, Aesthetic, and Spiritual Values

Within a broad context of philosophical inquiry, this course focuses on human values — ethical, aesthetic, spiritual — as they have evolved in man's quest for viable accommodation with life's uncertainties. Readings include expository essays, philosophic discourse, and imaginative literature, ranging among such authors as Plato, Aquinas, Kant and Camus. Continuing emphasis is placed upon development of oral and written expression. *2.5 Credit Hours.*

Advanced Courses

EN 151 American Thought and Literature to 1860

First Term — Prerequisites: Selection by Department

A Fourth Class interdisciplinary course in American Studies, this course examines American religious, political, and social thought, and the aesthetic ideas and cultural criticisms of several writers who have scrutinized American society. Among the authors studied are Taylor, Woolman, Edwards, Franklin, Jefferson, Cooper, Emerson, Thoreau, Hawthorne, Poe, and Melville. *2.5 Credit Hours.*

EN 152 American Thought and Literature since 1860

Second Term — Prerequisites: EN 151 or EN 101
A continuation of EN 151, this course focuses on the development and ideas of recent American thought and literature. Among the authors studied are Whitman, Twain, Howells, Dreiser, Adams, Crane, Sandburg, Eliot, Wright, Fitzgerald, O'Neill, Hemingway, Miller, Albee, and Bellow. *2.5 Credit Hours.*

Elective Courses

EN 381 English Literature from the Beginnings to 1660

First Term — Prerequisite: Credit for EN 201

Cadets in this course read and discuss significant works from Old English, Middle English, and the Renaissance. In doing so, they are introduced to the genesis of various forms of prose, poetry, and drama in English, to the continuity and trends in these forms, and to major authors. The course includes writing requirements designed to focus the student's study on the period under consideration and a written final examination that requires overall knowledge of English literature prior to the Restoration. *2.5 Credit Hours.*

EN 382 English Literature from 1660 to the Present

Second Term — Prerequisite: Credit for EN 201
This course examines poetry, commentary, and fiction from early Romantics, through the Victorian period to the early 20th century. Students consider the style and content of each selection, toward the end of determining the author's contribution to the body of English literature and the culture of modern America. Among the writers included are Blake, Wordsworth, Keats, Lamb, Arnold, Carlyle, Mill, Ruskin, Hopkins, Joyce, and Dylan Thomas. *2.5 Credit Hours.*

EN 383 Contemporary Literature

First Term — Credit for EN 201

This course examines contemporary western man and his world, seeking to define the modern temper as seen in major works of fiction, poetry, and drama written since 1880. Among the American and European authors studied are Conrad, Hardy, Yeats, Eliot, Auden, Ibsen, Chekhov, Shaw, Strindberg, Pirandello, and Brecht. *2.5 Credit Hours.*

EN 384 American Literature of the Nineteenth Century

Second Term — Prerequisite: Credit for EN 201

This course examines the works of nine major 19th century American writers: Emerson, Thoreau, Poe, Hawthorne, Melville, Whitman, Twain, James, and Dickinson. The course takes a unified overview, stressing the influence of one writer upon another and the temper of a young nation on all nine. *2.5 Credit Hours.*

EN 391 Introduction to Fine Arts

First Term — Overload Elective

This is a survey course to acquaint the cadet with dominant themes in the visual arts, from primitive cultures, Eastern and Western, to the present. It relates aspects of today's environment — such as architectural, engineering and automotive design, and photography and television graphics — to the history and meaning of art of the past. Visiting professionals give demonstrations of techniques of painting, sculpture, and design, amplified by discussions of current ideas in the art world. *2 Credit Hours.*

EN 392 Introduction to Music

Second Term — Overload Elective

Not a history of music, per se, this is a practical introduction upon which the cadet can expand his appreciation according to his own interests and talents. Elements of music, the creative process, musical texture and structure are discussed. *2 Credit Hours.*

EN 481 The Novel

First Term — Prerequisite: Credit for EN 201

This course is a study of the development of the novel as a mode of literary expression. The course is devoted to a close reading and analysis of approximately ten representative novels of America and Europe. *2.5 Credit Hours.*

EN 482 Shakespeare

Second Term — Prerequisite: Credit for EN 201

This course consists of a study of the works of Shakespeare both in their historical context and as works of creative imagination. The course stresses the universality of theme, the relation of the writings to Renaissance literature and the temper of the Elizabethan age, and the distinctive character of Shakespeare's genius. *2.5 Credit Hours.*

EN 483 Aspects of American Culture

Either Term — Prerequisites: Credit for EN 201 and HI 201

Each offering of this course permits cadets to study in depth some particular phase, movement, school or theme within American culture. The interdisciplinary emphasis provides a deeper understanding of the historical evolution as well as current state of American technological, political, intellectual, and moral thinking. The specific scope of the offerings is determined yearly, but some possibilities include Religious Thought and the American Mind, The Influence of Scientific Thought and Technology on American Life, The Black American in U.S. History, The Westward Expansion, The Mind of the South, Social Issues of the 1920's and 30's, and similar subjects. *2.5 Credit Hours.*

EN 485 Seminar in Major British Authors

First Term — Prerequisites: EN 201 and EN 382 or EN 383

This course permits cadets to study in depth the works of two or three major British authors. Heavy emphasis will be placed on individual student research and reading. *2.5 Credit Hours.*

EN 486 Seminar in Major American Authors

Second Term — Prerequisites: EN 201 and EN 383 or EN 384

This course permits cadets to study in depth the works of two or three selected American authors. Heavy emphasis will be placed on individual research and reading. *2.5 Credit Hours.*

EN 487 American Studies: Expositors of 19th Century Thought

First Term — Credit for EN 201

This course is an interdisciplinary study of the attitudes and outlooks of recognized leaders of America's intellectual development in the formative years from the Federalist Period to 1900. Individuals studied include Channing, Jefferson, Emerson, Cooper, Bancroft, W. G. Sumner, William James, *et. al.* *2.5 Credit Hours.*

EN 488 American Studies: Social Criticism in Modern American Writing

Second Term — Prerequisite: Credit for EN 201

This course emphasizes not only the developing cultural criticism implicit in the 20th century American novel, but gives equal attention to the relation of these writings to the views expounded by influential artistic, literary, and social critics of the day. *2.5 Credit Hours.*

EN 489 Honors Course

Either Term — Prerequisites: Selection by Department

This course permits the cadet of advanced competency in Literature or American Studies to pursue independent study. With his faculty advisor he develops a project and then conducts extensive research, the findings of which are normally presented in a monograph. *2.5 Credit Hours.*



DEPARTMENT OF FOREIGN LANGUAGES



Professor and Head of Department

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Professor and Deputy Head of Department

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LTC HARRY E. CARTLAND, B.G.E., University of Omaha; M.A., Middlebury College

LTC JOHN F. HOOK, B.S., United States Military Academy; M.A., Middlebury College

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(on Sabbatical Leave)

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MR. SAMUEL G. SALDIVAR, B.A., M.A., Florida State University
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MR. MICHAEL SOLO, B.A., Monmouth College; M.A., Fordham University
MR. CLAUDE VIOLLET, B.A., University of Paris (Sorbonne); M.A., Middlebury College
MAJ ROBERT Y. WONG, B.S., United States Military Academy; M.A., Indiana University
CPT JOHN T. BOOKER, B.A., Dartmouth College; M.A., University of Minnesota

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LTC HANS GIERSCHIK, M.A., University of Frankfurt, Germany
LTC LAWRENCE H. HALL, B.S., Marquette University; M.A., Indiana University; M.A., University of Richmond

LTC ROBERT HANNAS, B.A., City College of New York
 LTC ROBERTO N. MENDES, B.S., Academia Militar das Agulhas Negras, Brazil
 LTC ERIC F. REICHEL, B.A., University of Nebraska; M.A., American University
 MAJ LLOYD T. ASBURY, B.S., United States Military Academy; M.A., Middlebury College
 MAJ ALDEN M. CUNNINGHAM, B.S., United States Military Academy; M.A., Middlebury College
 MAJ ROBERT L. DOHERTY, B.A., Northwestern University; B.A., University of Maryland; M.A., Middlebury College
 MAJ RICHARD P. GUTHRIE, B.S., United States Military Academy; M.A., Middlebury College
 MAJ EDWARD A. HAMILTON, B.S., United States Military Academy; M.A., University of Pennsylvania
 MAJ JOSEPH J. HEINLEIN, B.A., Duquesne University; M.A., American University
 MAJ ANDREA A. SARZANINI, B.S., United States Military Academy; M.A., Middlebury College
 CPT LARRY L. BEDELL, B.S., United States Military Academy; M.A., Middlebury College
 CPT WILL E. DeMARET, B.S., United States Military Academy; M.A., Middlebury College
 CPT THOMAS J. DURFEE, B.S., United States Military Academy; M.A., Vanderbilt University
 CPT DONALD E. GONNEVILLE, B.A., University of Omaha
 CPT JAMES R. HOLBROOK, B.A. and M.A., American University
 CPT WALTER E. KATUZNY, B.A., De Paul University; M.A., Middlebury College
 CPT ARTHUR G. LOZEAU, B.S., United States Military Academy; M.A., Middlebury College
 CPT JOHN F. MURRAY, B.S., United States Military Academy; M.A., Middlebury College
 CPT MILLARD A. PECK, B.A., Kenyon College
 CPT JOHN C. THOMPSON, B.S., United States Military Academy; M.A., Middlebury College
 CPT DOUGLAS S. THORNBLOM, B.S., United States Military Academy; M.A., Middlebury College
 CPT JOHANNES W. VAZULIK, A.B., University of Utah; A.M., Case Western Reserve University
 1LT JAMES M. DUNN, M.A., University of Notre Dame; M.A., Ph.D., University of Michigan

Standard Courses

**LC 101-102-Chinese; LF 101-102-French;
 LG 101-102-German; LP 101-102-Portuguese;
 LR 101-102-Russian; LS 101-102-Spanish**

Prerequisites: None

A basic course in the language. In keeping with the primary objectives of speaking and understanding, oral work is stressed. Audio-lingual skills are developed by reading aloud, repetition drills, question and answer exercises, prepared and extemporaneous dialogues, individual short talks, and frequent use of the language laboratory. After the first month of the course, classroom work is normally in the foreign language.

5 Credit Hours. (2.5 each term)

**LC 201-202-Chinese; LF 201-202-French;
 LG 201-202-German; LP 201-202-Portuguese;
 LR 201-202-Russian; LS 201-202-Spanish**

Prerequisites: The 101-102 courses in the appropriate language.

A continuation of the 101-102 courses, with increased emphasis on applied grammar through discussions, dialogues, individual talks and frequent aural comprehension exercises. Periodic themes are used in conjunction with reading and discussion of several literary works and of

historical, geographical, and military material of current interest. Lectures are included on the history and civilization of the people whose language is being studied. All work is conducted in the foreign language.

8 Credit Hours. (4 each term)

Advanced Courses

**LF 141-142-French; LG 141-142-German;
 LR 141-142-Russian; LS 141-142-Spanish**

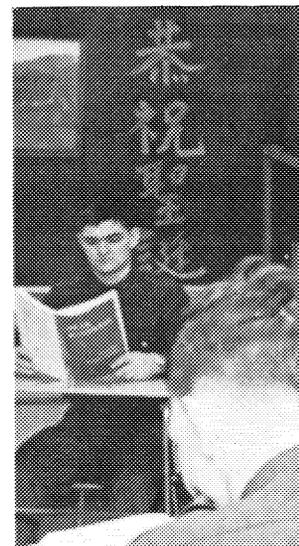
Prerequisites: 1 or 2 years of previous study of the language, and proficiency as shown in placement test.

An intermediate course with oral-aural emphasis and a thorough grammar review. Audio-lingual skills are developed by use of pattern drills, question and answer exercises, dialogues, and individual talks. Texts of literary value are read and discussed in class. All classroom work is in the foreign language.

5 Credit Hours. (2.5 each term)

**LF 151-152-French; LG 151-152-German;
 LR 151-152-Russian; LS 151-152-Spanish**

Prerequisites: Two or more years of previous study of the language, and proficiency based on oral and written tests administered prior to the beginning of Fourth Class year.



An upper intermediate course, with intensive grammar review and aural-oral emphasis. Extensive use is made of pattern drills, question and answer exercises, dialogues, individual talks, and periodic themes. Reading and discussion of several works of drama and fiction by prominent writers. All classroom work is in the foreign language.

5 Credit Hours. (2.5 each term)

LF 241-242-French; LG 241-242-German;

LR 241-242-Russian; LS 241-242-Spanish

Prerequisites: Completion of the 141-142 courses.

A continuation of the 141-142 courses, with increased emphasis on grammatical and syntactical accuracy, both in speech and writing. Reading of selected modern works, to include some writings on military subjects. Periodic themes are written, and cadets attend five or six lectures on various cultural aspects of the people whose language is being studied. All classroom work is in the foreign language.

8 Credit Hours. (4 each term)

LF 251-252-French; LG 251-252-German;

LR 251-252-Russian; LS 251-252-Spanish

Prerequisites: The 151-152 courses in the corresponding language.

Increased use of audio-lingual techniques, talks, debates, and interpreter exercises. Reading in a wider field of literature. Greater emphasis upon the culture and history of the countries concerned, including several lectures. Some reading of military writings. All classroom work is in the foreign language.

8 Credit Hours. (4 each term)

Elective Courses

LF 381 French Language Through Literature

LG 381 German Language Through Literature

LP 381 Portuguese Language Through Literature

LR 381 Russian Language Through Literature I

LS 381 Spanish Language Through Literature

First Term — Prerequisites: The 201-202 or 241-242 courses in the corresponding languages. (Not open to cadets who have completed the applicable 251-252 courses.)

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

2.5 Credit Hours.

LF 382 Military and Scientific Readings In French

LG 382 Military and Scientific Readings In German

Second Term — Prerequisites: The 201-202 or 241-242 or 381 courses in the corresponding language.

Military and scientific readings. Class discussions, themes, and translation into and from the foreign language.

2.5 Credit Hours.

LP 382 Survey of Brazilian Literature

LR 382 Russian Language Through Literature II

Second Term — Prerequisites: The appropriate 381 course, plus demonstrated ability to use the language in more complex situations.

Studies in the history and literature of respective countries. Class discussions, comparative studies, oral and written presentation of material, all in the appropriate foreign language.

2.5 Credit Hours.

LS 382 Military Readings in Spanish

Second Term — Prerequisites: LS 381 or LS 241-242 or validation.

Military readings. Class discussions, themes, oral and written reports, classroom tactical exercises.

2.5 Credit Hours.

LC 383 Chinese Literature and Culture I

First Term — Prerequisite: LC 202

This course utilizes essays on China's culture and civilization and contemporary Chinese writings to increase the student's proficiency in the language. Increased stress is placed on individual talks, writing, group discussions and the development of rapid character reading skill.

2.5 Credit Hours.

LC 384 Chinese Literature and Culture II

Second Term — Prerequisite: LC 383.

Continuation of LC 383. *2.5 Credit Hours.*

LP 383 Military Readings in Portuguese

First and Second Terms — Prerequisites: LP 381. Military Readings. Class discussions, themes, translations into and from Portuguese.

2.5 Credit Hours. (One Term Only)

LF 483 History of French Civilization I

First Term — Prerequisites: LF 251-252 or LF 381-382 or LF 241-242 (upper half) courses.

This course comprises readings in a variety of fields — historical, sociological, cultural, and literary — with the objective of presenting a panorama of French culture in the framework of French history and literary achievement.

2.5 Credit Hours.

LF 484 History of French Civilization II

Second Term — Prerequisites: LF 251-252 or LF 381-383 or LF 241-242 (upper half).

Continuation of LF 483. *2.5 Credit Hours.*

LG 483 History of German Civilization

First Term — Prerequisite: LG 382 or LG 252.

This course, a comprehensive survey, is an integrated study of the geography, history, and culture of Germany, introducing the cadet to the most significant political, social, economic, and artistic events of each period in the country's growth and development. Emphasis is placed on the German contributions to Western Civilization. Classroom work is in the foreign language.

2.5 Credit Hours.



LG 484 Contemporary Germany

Second Term — Prerequisite: LG 382 or LG 252. This course is a detailed study of contemporary Germany, introducing the cadet to the political, social, economic, and artistic events since the end of World War II. Emphasis is placed on Germany's national problems and on her contribution to the Western community of nations, to the Common Market, and to NATO. Classroom work is in the foreign language.

2.5 Credit Hours.

LR 473 Russian and Soviet Civilization

First Term — Prerequisites: LR 251-252 or LR 381-382.

A greater proficiency in the language is acquired through a survey of the historical and cultural elements that have developed the USSR and the Russian people. Classroom work is in the foreign language.

2.5 Credit Hours.

LR 475 Military and Scientific Russian

First Term — Prerequisites: LR 251-252 or LR 381-382.

Intensive readings in scientific and military works to prepare the student to read and understand current Russian publications on these subjects.

2.5 Credit Hours.

LS 483 Survey of Spanish-American Literature

First Term — Prerequisites: LS 251-252 or LS 381-382 or LS 241-242 (upper quarter).

A study of some of the outstanding modern authors of Spanish-American literature. The development and transformation of existing literary genres; new literary forms; Hispanic-American literature as a mirror of history and society of the nations involved. Classroom work is in the foreign language.

2.5 Credit Hours.

LS 484 Modern Spanish-American Literature

Second Term — Prerequisites: LS 251-252 or LS 381-382 or LS 241-242 (upper quarter).

Continuation of LS 483 — Survey of Spanish-American literature.

2.5 Credit Hours.

LC 485 Readings in Modern Chinese

First Term — Prerequisite: LC 384

This course utilizes articles on a variety of subjects taken from books, magazines, and political treatises, to increase the cadet's skill in speaking, reading, and writing.

2.5 Credit Hours.

LF 485 Survey of French Literature**LG 485 Survey of German Literature****LS 485 Survey of Spanish Literature**

First Term — Prerequisites: The appropriate 251-252 or 381-382 courses.

A survey course of the literature of France, Germany or Spain. Class discussions, themes, outside reading, reports in the appropriate foreign language.

2.5 Credit Hours.

LC 486 Military Readings in Chinese

Second Term — Prerequisite: LC 202

Military readings. Class discussions, themes, translations into and from the foreign language, interpreter exercises.

2.5 Credit Hours.

LF 486 Modern French Literature**LG 486 Modern German Literature****LS 486 Modern Spanish Literature**

Second Term — Prerequisites: The appropriate 251-252 or 381-382 courses.

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

2.5 Credit Hours.

LP 485 Directed Studies in Portuguese**LF 487 Directed Studies in French****LG 487 Directed Studies in German**

First Term — Prerequisites: LP 381 or LF 485-486 or LG 485-486.

These courses are intended for those cadets who have a demonstrated language ability and a strong personal desire to accomplish a more detailed study of a particular period of history or literature. All work will be done in the foreign language.

2.5 Credit Hours.

LP 486 Directed Studies in Portuguese**LF 488 Directed Studies in French****LG 488 Directed Studies in German**

Second Term — Prerequisites: LF 487 or LP 381-382 or LG 487.

Continuation of LP 485, LF 487, LG 487 — Directed Studies in Portuguese, French or German.

2.5 Credit Hours.

LR 474 Soviet Russian Literature

Second Term — Prerequisites: LR 252 or LR 382 or LR 473 or LR 475.

A course on the literature of Soviet Russia. Class discussions, talks, outside reading in Russian.

2.5 Credit Hours.

LR 476 Soviet Expository Writing

Second Term — Prerequisites: LR 473 or LR 475.

Advanced studies based on readings from Soviet publications, class discussion, talks, outside reading in Russian.

2.5 Credit Hours.



DEPARTMENT OF HISTORY



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MAJ STEPHEN KLEIN, B.S., United States Military Academy; M.A., Syracuse University
MAJ ROBERT F. KREIDLER, B.S., John Carroll University; M.A., University of Pittsburgh
MAJ MOORAD MOORADIAN, Ed. B., Rhode Island College; M.A., University of Rhode Island
MAJ HAROLD W. NELSON, B.S., United States Military Academy; M.A., University of Michigan
MAJ GERALD P. STADLER, B.S., United States Military Academy; M.A., Duke University
CPT THOMAS J. ARCHDEACON, B.A., Fordham University; M.A., Columbia University
CPT JOSEPH J. ELLIS, III, B.S., College of William and Mary; M.A., Ph.D., Yale University
CPT. MICHAEL D. KRAUSE, B.A., Norwich University; M.A., Ph.D., Georgetown University
CPT THOMAS W. SWEENEY, A.B., A.M., John Carroll University
CPT DAVID L. THAXTON, B.A., Rutgers University; M.A., Indiana University

Instructors

LTC JAMES B. AGNEW, A.B., The Citadel; M.P.A., Princeton University
LTC RICHARD L. CURL, B.S., United States Military Academy; M.S.C.E., University of Illinois
LTC VINCENT P. McDONALD, B.A., Providence College; M.B.A., Ohio State University; M.A.,
University of Missouri
MAJ JACK W. DICE, B.S., United States Military Academy; M.A., Duke University
MAJ JAMES K. EVETTS, JR., B.S., United States Military Academy; M.A., Duke University
MAJ EDWARD S. FOSTER, JR., B.A., Norwich University; M.A., University of Southern Cali-
fornia
MAJ JOHN A. HIXSON, B.S., United States Military Academy; M.A., Rice University
MAJ DON L. LAIR, B.S., United States Military Academy; M.A., Stanford University
MAJ DONALD V. LOCKEY, B.S., United States Military Academy; M.A., Duke University
MAJ JIM R. PASCHALL, B.S., United States Military Academy; M.A., Duke University
MAJ ALEXANDER P. SHINE, B.S., United States Military Academy; M.A., Harvard University
MAJ JOHN F. VOTA'V, B.S., United States Military Academy; M.A., University of California,
Davis
MAJ DONALD L. WILLIAMSON, B.S., United States Military Academy; M.A., University of
Hawaii
CPT HENRY J. LOWE, B.S., United States Military Academy; M.A., University of Virginia
CPT ROY L. MAY, B.A., M.A., Texas A&M University
CPT CHARLES R. SHRADER, B.A., Vanderbilt University; M.A., Columbia University
CPT KENNETH A. STEADMAN, B.A., University of Dayton, Ohio; M.A., Johns Hopkins Univer-
sity
CPT EGON R. TAUSCH, B.A., M.A., University of Texas
1LT JOHN P. ROUSMANIERE, B.A., M.A., Columbia University

Standard Courses

HI 201 History of Europe, 1500-1870

First Term — Prerequisites: None

A survey of the major social, political, and economic developments in Western European society since the Renaissance. Events in other areas of Europe, America, and Asia are introduced where they relate to the history of Western Europe. This course provides a foundation for the further study of the people, institutions, and issues which subsequently influenced the evolution of Western Civilization.

2.5 Credit Hours.

HI 202 History of Europe Since 1870

Second Term — Prerequisites: HI 201 or the equivalent

A survey of the continuing evolution of European society since 1871. Included is a detailed study of certain nations, periods, and issues, using the seminar technique as a vehicle. The central theme of this course is the social, political, and economic evolution of Western European culture, including the influence of that culture on the rest of the world. Other areas of Europe, Asia, America, and Africa are introduced in their context with the main theme.

2.5 Credit Hours.

HI 203 History of the United States to 1877

First Term — Prerequisites: None

A survey of the major developments in American society from the Age of Discovery to the end of Reconstruction. This course emphasizes the impact of the colonial experience, early national social, political and economic issues, and the Civil War on the evolution of a distinctive American society.

HI 204 History of the United States Since 1877

Second Term — Prerequisites: HI 203 or the equivalent

A survey of the major trends in American society since Reconstruction. Particular stress is laid upon those social, political, and economic developments which have been of continuing influence. The rise of the United States to a position of world power is also emphasized. Selected historical issues are studied in detail, using the seminar technique as a vehicle.

2.5 Credit Hours.

HI 401-402 History of the Military Art

Prerequisites: HI 201-202 or HI 203-204

A study that traces the evolution of the art of war, and examines man in his role of warrior. Beginning with the campaigns of Alexander of Macedonia, the subject is developed historically by tracing threads of continuity. These threads emphasize the theory and doctrine of warfare, strategy and tactics, generalship, military professionalism, logistics, administration, technology, and the interrelationships between warfare and social, political, and economic factors. Sea power and — as the course proceeds into the 20th Century — air power, are correlated with land power. The principles of joint and com-

bined command are included as the course concludes with consideration of the post-World War II period: the Korean War, revolutionary warfare, and the Arab-Israeli Wars. *8 Credit Hours.*

Advanced Course

HI 451-452 Advanced History of the Military Art

Prerequisites: HI 201-202 or HI 203-204

This course for selected students traces the evolution of the art of war and examines man in his role of warrior. Along with more rapid coverage of course materials from HI 401-402, historical analysis and critique are emphasized in debates, individual projects, war games and similar exercises that develop or verify military concepts. *8 Credit Hours.*

Elective Courses

HI 371 History of Russia

Either Term — Prerequisites: HI 201-202 or HI 203-204

A general survey of the historical development of the Russian nation and its relation to the western world. Three-quarters of the course is devoted to the post-1825 period, utilizing modern approach. Special attention is paid in the Soviet period to the unique role of the Communist Party in Russian politics and the central role of state planning. Recognizable aspects of continuity and change, drawn from the periods before and after the Revolution, are analyzed. *2.5 Credit Hours.*

HI 372 History of United States Foreign Relations

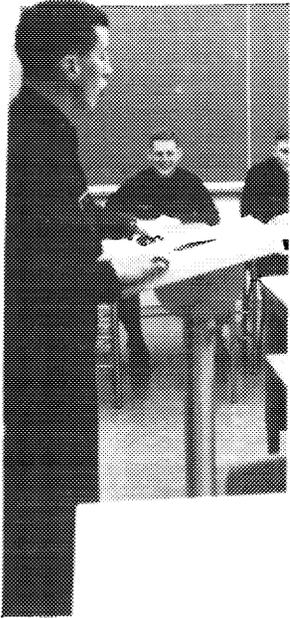
Either Term — Prerequisites: HI 201-202 or HI 203-204 (HI 202 or HI 204 may be taken concurrently).

A study of the history of American relations with the world with emphasis on the period since the Spanish-American War. The course also focuses on the role of individuals in the formulation of national policy within the framework established by the Constitution, historical precedents, domestic forces, and external developments. Course objectives include gaining: (1) a knowledge of the nature, origins, and historical development of modern American diplomacy during the evolution of the United States to a position as a world power (2) an understanding of the historical factors involved in the formulation and execution of foreign policy and (3) a basis for examining and evaluating present policies and diplomatic actions of the United States in their proper historical perspective. *2.5 Credit Hours.*

HI 373 Topics in American History

Either Term — Prerequisites: HI 201-202 or HI 203-204 (may not be taken concurrently).

This course offers the cadet a variety of American history topics for semester-long in-depth study. Topics customarily differ each semester



and are focused on certain periods of the American past or on certain continuing aspects of American life.

1st Term, AY 1971-72: **The Black in American History.** A study of the black man's experience in American society since 1619. Investigation is made of the separatist and integrationist traditions, the militant and docile portraits of the slave, the problems of rural and urban blacks, and the appeal of violence and non-violence to black leaders.

2nd Term, AY 1971-72: **The City in American History.** A study of the historical development of American cities from colonial times to the modern period, stressing the relationship of the growth of cities to the broad social, economic, political, and intellectual currents in America. Drawing from examples of selected cities in specific historical periods, the study examines the changes that urbanization has brought to traditional concepts of a rural and decentralized American society, the assimilation of diverse immigrant and ethnic groups, the development of political "machines" and pressure groups, and the effect of advancing technology on the economic growth and life styles of metropolitan centers. *2.5 Credit Hours.*

HI 374 Topics in European History

Either Term — Prerequisites: HI 201-202 or HI 203-204 (May not be taken concurrently).

This course offers the cadet a variety of European History topics for semester-long in-depth study. Topics customarily differ each semester and are focused on certain periods of the Western and European development; national histories are often presented as are the more topical histories of science, diplomacy, and religion.

1st Term, AY 1971-72: **Tudor and Stuart England.** A study of the transition of Britain from a feudal to a recognizably modern state. Primary focus is on constitutional history, investigated against the background of social, eco-

nomie, and cultural change. Materials include religious and philosophical literature, diaries, journals, and contemporary accounts.

2nd Term, AY 1971-72: **European Diplomatic History Since 1870.** A study of the diplomatic history of Europe in the late 19th and early 20th centuries which focuses on the passing of the concert of Europe and subsequent attempts to restore it. Emphasis is placed on the relationships between the European balance of power and German unification, the Bismarckian era of stability, the Eastern question, World War I, the problems of fulfillment of the peace, Hitler and the Second World War.

2.5 Credit Hours.

HI 381 Revolutionary Warfare

Either Term — Prerequisites: HI 201-202 or HI 203-204 (May be taken concurrently).

A study of the historical evolution of the theory and practice of modern revolutionary warfare. The course includes exposure to the writings of selected revolutionary and counterrevolutionary theorists. The evolution of the theory and practice of revolutionary warfare is then amplified through a series of selected case studies. The impact of World War II on modern revolutionary warfare is given special emphasis.

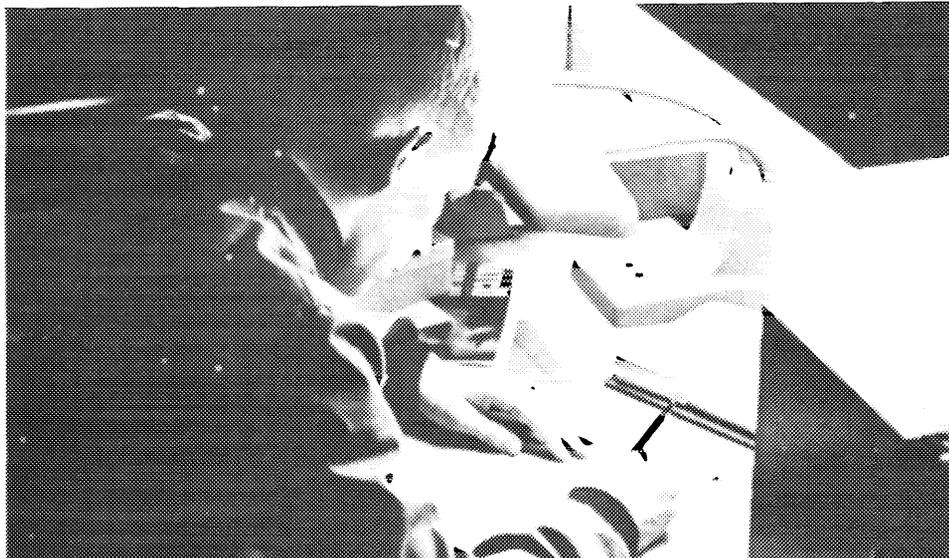
2.5 Credit Hours.

HI 383 Twentieth Century Warfare

Either Term — Prerequisites: HI 201-202 or HI 203-204 (May be taken concurrently).

A study of the major conventional wars involving the United States during the 20th Century. For World Wars I and II, the course combines a study of the military systems of the major belligerents, their civil-military relations, and the influence of the theorists in order to provide an understanding of the way these wars were fought. For the post-World War II period, the Korean War and the significant military problems of the nuclear age are examined.

2.5 Credit Hours.





HI 384 Topics in Military History

Second Term — Prerequisites: HI 201-202 or HI 203-204 (May not be taken concurrently).

This course offers the cadet a variety of semester-long topics devoted to the study of military history in depth. The topics, which differ each semester, focus primarily on the broader, non-operational areas of military history.

2nd Term, AY 1971-72: War and Its Philosophers. Along with great commanders in history, there have been men who theorized about the nature of war, manner of waging it, and its relationship to and impact on societies. This topic selectively treats the contributions of such men — Machiavelli, Clausewitz, A. T. Mahan, Douhet, Liddell Hart, and Mao Tse Tung. The cadet reads from the works of these theorists, analyzes their concepts, and studies their impact on military affairs, past, present, and future.

2.5 Credit Hours.

HI 481 Seminar in History

Either Term — Prerequisites: HI 201-202 or HI 203-204

A study of theories and methods used in historical analysis of man's developing institutions and ideas. The purposes of the course are:

(1) To learn the theories and methods used in historical analysis of man's developing institutions and ideas; (2) to read representative works of eminent historians and thinkers, analyzing their use of sources, interpretive philosophies, and styles; (3) to apply these ideas to an investigation of a suitable historical topic selected from the period of Western history under analysis by the seminar.

1st Term, AY 1971-72: War and Society: The 20th Century Western Experience. A study of the relationships between the military and societies which they serve. Emphasis is placed upon the

values and institutions of the 20th Century American society, its approach to the use of force in resolving international problems, and the resulting impact on the nature and roles of American military forces. Comparison is made with European experiences.

2nd Term, AY 1971-72: Intellectual History of Modern Europe. Beginning with a brief consideration of the religious upheaval of the sixteenth century, this seminar is designed as a study of the role of ideas in shaping the intellectual environment of modern man. General orientation will be towards analysis of the social and intellectual impact of the major European ideas developed between the sixteenth and twentieth centuries. Readings will include works of Luther, Newton, Voltaire, Rousseau, Darwin, Nietzsche, Marx, Kierkegaard, and Freud.

2.5 Credit Hours.

HI 489 Individual History Project

Either Term — Prerequisites: Limited to cadets in the First Class and approval by the Head of the Department.

An individual research project, this course affords the cadet the opportunity to select an historical topic in consultation with his faculty advisor, and proceed independently with either (1) Guided Reading and Reporting, in which the cadet will study selected books and documents and be evaluated on review examinations and written reports of reading and research or (2) The Research Project, in which the cadet with suitable background in an historical topic investigates and is evaluated upon a comprehensive in-depth research report which he normally defends orally before a faculty committee. The cadet and faculty advisor meet during the term as often as either feels is necessary.

2.5 Credit Hours.

DEPARTMENT OF LAW



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Associate Professor and Deputy Head of Department

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Standard Courses

LW 301 Basic Principles and Legal Methods

First Term — Prerequisites: None

The Legal Philosophy and Basic Principles of Law segment of the course covers the principal theories of law which have been set forth by prominent legal philosophers of Western Civilization and provides an introduction to the nature and application of law and the functions of some of the traditional legal subjects including contracts, torts, and property.

The Legal Methods of Proof portion of the course provides an introduction to the Anglo-American rules of proof and their logical basis with particular emphasis on developing a logical and rational reasoning ability in both legal and nonlegal areas. *2.5 Credit Hours.*

LW 302 Constitutional Law and Military Law

Second Term

Constitutional Law provides an examination of the constitutional concept of the United States government including legislative, judicial, and executive powers and limitations, individual rights under the Constitution, the defense establishment, constitutional powers with respect to International Law, Law of War, and the legal aspects of civil affairs and counterinsurgency. The portion of the course on Military Law provides a study of punishments, the component parts of crimes and offenses, criminal responsibility, selected articles of the UCMJ, jurisdiction, pretrial matters, nonjudicial punishment and

courts-martial procedures. Basic theories and practical procedures are joined to enhance the cadet's ability to discharge his future responsibilities in military law. *2.5 Credit Hours.*

Elective Courses

LW 481 International Law

Either Term — Prerequisites: LW 301-302

An introduction to International Law, including a discussion of the nature and sources of International Law, problems of nationality, recognition of states, jurisdiction of states, international agreements and diplomatic intercourse, and the law of war. *2.5 Credit Hours.*

LW 482 Seminar in Military Aspects of International Law

Second Term — Prerequisites: LW 301, 302, and 481

The course consists of three parts. The first part requires class analysis of selected case studies involving significant modern international law episodes, such as the Cuban missile crisis. The second part of the course presents class teams with hypothetical problems involving international confrontations on land, sea and air. These problems require research and presentation of solutions applying international law norms. The third part consists of individual research and reports on a current international problem susceptible of a legal solution. *2.5 Credit Hours.*



DEPARTMENT OF MATHEMATICS



Professor and Head of Department

COL JOHN S. B. DICK, B.S., United States Military Academy; M.S., Massachusetts Institute of Technology; M.S., Rensselaer Polytechnic Institute; Armed Forces Staff College; NATO Defense College

Professor and Deputy Head of Department

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CPT STEVEN C. HARMAN, JR., B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute

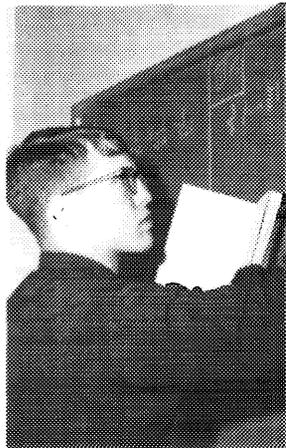
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CPT GEORGE T. WOOLSEY, B.S., United States Military Academy; M.S., Rensselaer Polytechnic Institute





Successful completion of the standard program by the end of the second year satisfies the requirement in mathematics for graduation from the Military Academy. Cadets who are permitted to concentrate their elective courses in the National Security and Public Affairs or Humanities (NSPA/HUM) area may take an elective or an upperclass core course in lieu of MA 206. The three advanced programs are designed for cadets who, by virtue of exceptional aptitude or above-standard preparation before entering West Point, are able to satisfy the standard program requirements in less than two years, thus gaining time for additional elective courses. Cadets in an advanced program who are not able to maintain proper progress are transferred to a lower program. The courses constituting the standard and advanced programs are shown below.

Standard Program

First year, MA 101-106 or MA 107-108; second year, MA 205-206. *23 Credit Hours.*

Standard Program: (NSPA/HUM)

First year, MA 101-106 or MA 107-108; second year, MA 207. *19 Credit Hours.*

Advanced Program I

First year, MA 101-152 or MA 107-158; second year, MA 281*-202. *23 Credit Hours.*

Advanced Program II

First year, MA 153-154; second year, MA 281*-202. *23 Credit Hours.*

Advanced Program III

First year, MA 155-156; second year, MA 285*-286*. *23 Credit Hours.*

*Electives during the second year need not be in mathematics; but if mathematics is chosen, the appropriate courses are those shown.

The subject-matter content of the separate courses is described in the outlines to follow.

Standard Courses

MA 101 Calculus and Analysis

Prerequisites: None

This is the first term of a two-term, beginning course in calculus and analytic geometry. During this term, vector analytic geometry in two dimensions is covered in coordination with differential calculus. A brief introduction to foundations of the real number system and some numerical methods suitable to digital computer solutions are included in addition to the usual study of derivatives and differentials of algebraic and transcendental functions, with applications. *7.5 Credit Hours.*

MA 106 Calculus and Analysis

Prerequisite: MA 101

This is the second term course in the Standard Program. It concludes the study of analytic geometry and differential calculus begun in MA 101 in the first term. The course then continues with integral calculus to include applications to geometric and physical problems, multiple integrals, infinite series and expansion of functions. *7.5 Credit Hours.*

MA 107 Calculus and Analysis

Prerequisites: None

This is the first term of a two-term course in calculus and plane analytic geometry. The term begins with a brief introduction to set theory and inequalities, followed by a rigorous treatment of differential and integral calculus of real valued functions of a single variable, coordinated with plane analytic geometry and appropriate practical applications. *7.5 Credit Hours.*

MA 108 Calculus and Analysis

Prerequisite: MA 107

This is the second term course in the Standard Program. After completing the study of plane analytic geometry and functions of a single variable, the course continues with the theory of infinite series, plane vectors, solid analytic geometry and the vector calculus of functions of several variables, including such topics as partial differentiation, vector functions, multiple integrals, line and surface integrals. The term concludes with a presentation of Stokes' and Green's Theorems and an introduction to first order differential equations with physical applications. *7.5 Credit Hours.*

MA 202 Differential Equations and Probability Theory and Statistical Inference

Prerequisite: MA 281

This course includes the last half of work in differential equations begun in the first term and is immediately followed by probability theory and statistical inference which 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. *4 Credit Hours.*

MA 205 Differential Equations and Probability Theory and Statistical Inference

Prerequisite: MA 106

This course includes a basic course in differential equations to include Laplace transforms and Fourier analysis and is immediately followed by probability theory and statistical inference course which is continued in the second term. The probability and statistics course includes fundamentals of probability theory, random variables, probability distributions and probability and density functions, binomial and normal distributions, the Central Limit Theorem, the Chi-square, t, and Poisson distributions, sampling distributions, theory of estimation and confidence intervals for variance. *4 Credit Hours.*

MA 206 Probability Theory and Statistical Inference and Linear Algebra and Linear Programming

Prerequisite: MA 205

This course includes the last part of Probability Theory and Statistical Inference to include hypothesis testing and analysis of variance, followed by linear algebra and linear programming. The work in linear algebra includes a study of matrices, systems of linear equations, vector spaces, and characteristic value (eigenvalue) problems, as well as an introduction to linear programming. *4 Credit Hours.*

MA 207 Differential Equations and Probability Theory and Statistical Inference

Prerequisite: MA 106

This course includes a basic course in differential equations to include Laplace transforms and Fourier analysis followed by a course in probability theory and statistical inference. The probability and statistics course includes fundamentals of probability theory, random variables, probability distributions and probability and density functions; binomial and normal distributions, the Central Limit Theorem, the Chi-square, t, and Poisson distributions, sampling distributions, theory of estimation, confidence intervals, hypothesis testing and analysis of variance. *4 Credit Hours.*

Open to cadets who concentrate their elective courses in NSPA/HUM area.

Advanced Courses

MA 152 Advanced Placement Calculus, and Linear Algebra

Prerequisites: MA 101 and selection by Head of Department

This course is given in the second term of the first year to selected cadets who complete MA 101 with high standing and thereby become eligible for Advanced Program 1. The calculus coverage is the same as in MA 106. MA 152 also includes a course in linear algebra which is at a higher level than the linear algebra offered to cadets enrolled in the Standard Program during their 3rd Class (sophomore) Year, as part of MA 206, and it includes a study of vector operations, vector spaces, matrices, determinants, linear transformations, systems of linear equations, characteristic values and vectors, and quadratic forms. *7.5 Credit Hours.*

MA 158 Advanced Placement Calculus, Analysis, and Linear Algebra

Prerequisites: MA 107 and selection by Head of Department

This course is given in the second term of the first year to selected cadets who complete MA 107 with high standing and thereby become eligible for Advanced Program I. The calculus coverage is the same as in MA 108. MA 158 also includes a course in linear algebra with coverage of vector spaces, matrices, determinants, linear transformations, systems of linear equations, and eigenvalues. *7.5 Credit Hours.*

MA 153 Advanced Placement Calculus and Analysis

Prerequisite: Selection by Head of Department
The scope of this course encompasses the subject matter of MA 101 plus a significant part of MA 106. The work concentrates on introductory function theory, a rigorous treatment of differential calculus for functions of a single real variable, and vector analytic geometry in two and three dimensions. *7.5 Credit Hours.*

MA 154 Advanced Placement Calculus, Linear Algebra and Linear Programming

Prerequisite: MA 153

This is the second term course in Advanced Program II and a continuation of MA 153. The calculus coverage in MA 154 encompasses the portion of MA 106 not already covered by MA 153; i.e., a rigorous treatment of integral calculus for functions of a single real variable, multiple integrals, infinite series, and expansion of functions. The work in linear algebra is more extensive than that in MA 152 and includes an introduction to linear programming. *7.5 Credit Hours.*

MA 155 Advanced Placement Calculus and Analysis

Prerequisite: Selection by Head of Department
This accelerated course provides a study of introductory function theory plus a rigorous treatment of differential and integral calculus, to include an introduction to differential equations. The scope encompasses the subject matter of the entire first year Standard Program calculus and analysis. *7.5 Credit Hours.*

MA 156 Advanced Placement Linear Algebra and Linear Programming, Differential Equations, and Probability Theory and Statistical Inference

Prerequisite: MA 155

This course includes the work in linear algebra and linear programming, differential equations, probability theory and statistical inference which is ordinarily covered in the second year of the Standard Program *7.5 Credit Hours.*

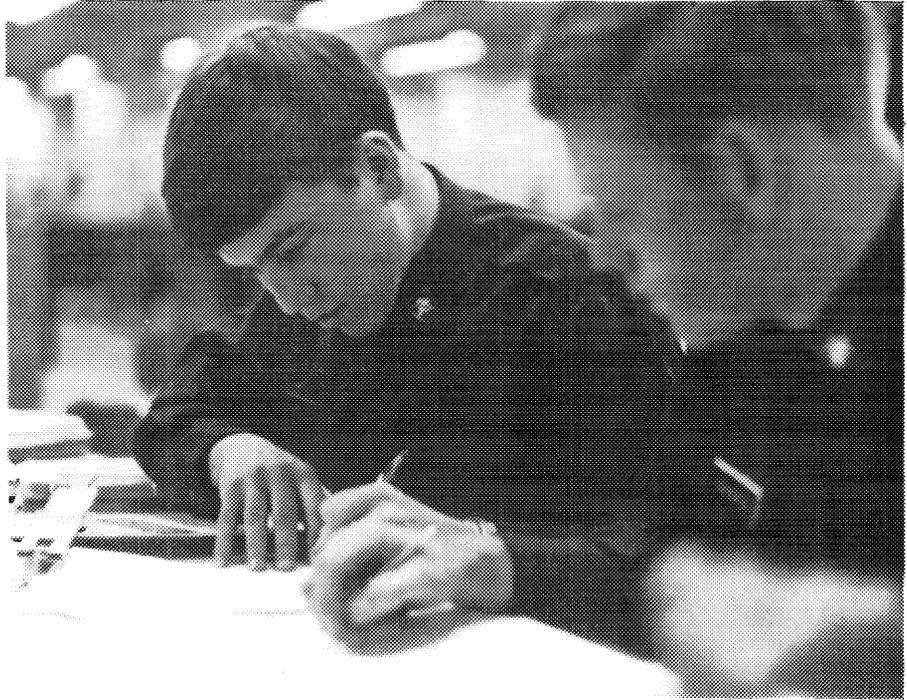
Elective Courses

MA 281 Vector Calculus and Differential Equations

Prerequisite: MA 152 or MA 154

The scope of this course is essentially the same as that covered in MA 483, VECTOR CALCULUS, followed by work in differential equations. Cadets from Advanced Programs I and II who elect MA 281 benefit from this election by earning credit for vector calculus, a key elective requisite to a number of mathematics, science and engineering electives. *4 Credit Hours.*





MA 285-286 Vector Calculus, Complex Analysis, and Differential Equations (Intermediate)

Prerequisite: MA 156

This two-term course is intended primarily for cadets of Advanced Program III in order that they may earn credit equivalent to three important mathematics electives by the end of Third Class year. The coverage is essentially the same as that contained in MA 483, MA 485, and MA 484 taken in that order. The first term includes topics in vector calculus and complex analysis. Complex analysis is completed in the second term followed by intermediate differential equations.

8 Credit Hours.

First and Second Classmen who have completed MA 206 with an A average will be considered for enrollment.

MA 481 Linear Programming

Second Term — Prerequisites: MA 206, MA 152, MA 154 or MA 156

This course treats the optimal solution of a linear system. It includes an introduction to convex sets and n-dimensional geometry, a development of the linear programming problem, and the standard original and revised simplex computational procedures. The duality problems and degeneracy procedures of linear programming are included, and additional computational techniques applicable to specific mathematical models are investigated. The correspondence between the general linear programming problem and the theory of games is developed and demonstrated. Practical problems are included, with emphasis on military applications and their solution with aid of the digital computer.

2.5 Credit Hours.

MA 482 Abstract Algebra

First Term — Prerequisites: MA 483 or MA 281 or MA 285. Permission of Head of Department

This is an introductory course in modern algebra for cadets who plan to take graduate work of a theoretical nature in mathematics, physical science or engineering. A unit on set theory, relations, mappings and elementary number theory precedes a study of groups which includes normal subgroups, quotient groups and the fundamental homomorphism theorems. The remainder of the course is devoted to rings, domains and fields. *2.5 Credit Hours.*

MA 483 Vector Calculus

Either Term — Prerequisites: MA 106, MA 152, MA 154 or MA 156

This course develops many of the basic mathematical tools used in science and engineering subjects. After a unit on vector algebra and kinematics, the calculus of functions of several variables is taken up. Implicit function theory, curvilinear coordinates, chain rules and directional derivatives are covered in the differential theory. Results are applied in a study of parametrically and implicitly defined surfaces and space curves. Change of variable formulas for multiple integrals, surface area formulas and Leibnitz' Rule are derived. The gradient, divergence and curl operators are studied. In the concluding unit on integral vector calculus, the theorems of Green, Gauss and Stokes are used to relate line, surface and volume integrals. Path independence of line integrals and the invariance of the divergence and curl are also treated. *2.5 Credit Hours*

Not open to cadets who have completed MA 281 or MA 285.

MA 484 Differential Equations (Intermediate)

Either Term — Prerequisite: MA 483 or MA 281 or MA 285

This course is an extension of the concepts developed in MA 205, MA 207 and MA 281. Elementary techniques are reviewed. Techniques of solution by series methods are reviewed and extended. Existence and uniqueness theory is developed and is followed by a thorough treatment of the theory of linear differential equations. Sturm-Liouville boundary value problems and Fourier Series are considered and applied to the theory of partial differential equations. Systems of equations are studied with the aid of matrix techniques which develop the eigenvalue problem and diagonalization through the use of similarity transformations. *2.5 Credit Hours.* Not open to cadets who have completed MA 286.

MA 485 Complex Analysis

Either Term — Prerequisite: MA 483 or MA 281 or MA 285

This course is primarily an introduction to functions of a complex variable, including algebra of a complex variable, elementary functions, limits, derivatives, Cauchy's Integral Theorem and Formula, series representation to include Taylor's and Laurent's series, theory of residues, conformal mapping and linear transformations and special topics in complex potential. *2.5 Credit Hours.*

Not open to cadets who have completed MA 286.

MA 486 Numerical Analysis with Digital Computation

Second Term — Prerequisites: MA 202, MA 206 or MA 156

This course emphasizes the methods of numerical analysis with the digital computer in a strong supporting role. It includes methods that utilize 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 digital computer. Investigation of the generation, propagation, significance and control of error is emphasized. Programming ability beyond the material presented in EF 102 is desirable but not required.

2.5 Credit Hours

May be taken concurrently with MA 202 or MA 206.

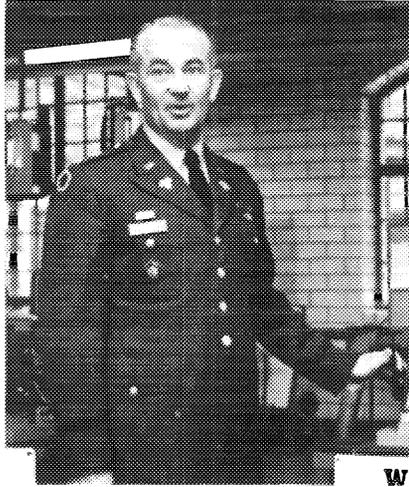
MA 487 Real Variable Theory

Second Term — Prerequisites: MA 483 or MA 281 or MA 285 and MA 485 or MA 286. Permission of Head of Department.

Intended for cadets who plan to pursue graduate work of a theoretical nature in mathematics, science or engineering, this course examines the foundations of analysis and develops the theory of functions of real variables in a rigorous fashion. Introductory units on the development of the real number system, the properties of finite and infinite sets, and the concepts of line topology provide the basis for a more rigorous discussion of the topics of elementary differential calculus — sequences, series, limits, continuity, differentiability and integration. Sequences and series of functions are studied in detail with emphasis on uniform convergence and its role in determining properties of the limit function. Power series are investigated fully. The concepts of monotone function, bounded variation, and Stieltjes integration are introduced. *2.5 Credit Hours.*



DEPARTMENT OF MECHANICS



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 CPT GILBERT C. BRUNNHoefffer, B.S., United States Military Academy; M.S.C.E., University of Illinois
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 CPT PAUL F. MLAKAR, B.S., United States Military Academy; M.S., Purdue University

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 CPT DAVID W. MILAM, B.S., United States Air Force Academy; M.S., University of Arizona
 CPT BERNARD J. REILLY, JR., B.S., United States Military Academy; M.S., Brown University

Standard Courses

ME 301 Thermodynamics

Either Term

This course is a study of energy, energy transfer and the media utilized to accomplish this transfer. It 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, mixtures of ideal gases, nozzles and jet propulsion, refrigeration and heat transfer. In the laboratory, the cadet learns the correlation of theory and practice. The equipment utilized includes gasoline, diesel and fuel research engines, a steam laboratory demonstration unit, steam turbines, air compressors, gas turbines and refrigeration and air conditioning units. *4 Credit Hours.*

ME 302 Fluid Mechanics

Either Term

A study of the laws of mechanics as they apply to liquids, vapors, and gases, this course includes a study of fluid properties, principles of fluid statics, fluid dynamics, boundary layer and basic drag concepts, flow of compressible gases, dimensional analysis and dynamic similitude, flow of real fluids in conduits, flow measurements, dynamic drag and lift, turbomachines, and open channel flow concepts. Practical exercises in the laboratory illustrate theory previously studied in the classroom. Equipment used includes pumps, flow measurement devices, pipe friction measurement devices, a subsonic wind tunnel, a smoke tunnel and a supersonic nozzle thrust stand. The principles of fluidics are demonstrated during this phase. *4 Credit Hours.*



ME 303 Engineering Mechanics

Either Term

The relationships between external effects and force systems for particles and rigid bodies are developed by vector mathematics as an engineering science. The statics portion of the course includes a study of equilibrium in two and three dimensions, centroids, distributed forces, analysis of trusses and frames, shear and bending moment diagrams, and friction. The dynamics portion of the course consists of a study of kinematics and kinetics for both particles and rigid bodies. Newton's Second Law, work-energy and impulse-momentum methods are used in both particle and rigid body dynamics. *4 Credit Hours.*

Advanced Courses

ME 351 Advanced Thermodynamics

Either Term — Prerequisite: Demonstrated superior ability in Chemistry, Physics and Mathematics, and/or Fluid Mechanics and Engineering Mechanics.

A more sophisticated coverage of the subject matter of ME 301 with the addition of such material as microscopic concepts, non-reacting and reacting mixtures, fluid flow, heat transfer, and direct energy conversion devices. Emphasis is placed on fundamental concepts, models, and laws of thermodynamics. Systematic methodology is stressed using a wide range of engineering applications. The laboratory sessions provide 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 352 Advanced Fluid Mechanics

Either Term — Prerequisite: Demonstrated superior ability in Chemistry, Physics, Mathematics and/or 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. Practical exercises in the laboratory illustrate theories 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.*

ME 353 Advanced Engineering Mechanics

Either Term — Prerequisite: Demonstrated superior ability in Physics and Mathematics.

Coverage of the subject material of ME 303 is accelerated. Also included are space trusses, virtual work, stability, gyroscopic motion, general space motion of a rigid body, and a section on dynamics of non-rigid systems which includes

variable mass, generalized coordinates. Lagrange's equations and Hamilton's principle. *4 Credit Hours.*

Elective Courses

ME 384 Mechanics of Materials

Either Term — Prerequisite: ME 303 or ME 353

This course develops the elastic and inelastic relationships between external forces (loads) acting on deformable bodies and the stresses and deformation produced. The study includes centric, torsional, flexural and combined loading, beam theory, column theory, and the influence of properties of materials. Creep, fatigue and brittle fracture are introduced. Five laboratory exercises illustrating the above principles are conducted during the course. *4 Credit Hours.*

ME 471 Aerospace Propulsion

Either Term — Prerequisite: ME 302 or ME 352

This course covers the fundamentals of propulsion as applied to jet and rocket engines. The course includes a development of the mechanics and thermodynamics of fluid flow in jets and rockets and a study of turbofan, turbojet, ramjet, turbofan, chemical rocket, nuclear rocket and electric propulsion engines. *2.5 Credit Hours.*

ME 481 Compressible Aerodynamics

Either Term — Prerequisite: ME 302 or ME 352

A coverage of the basic principles of fluid dynamics and thermodynamics to include both subsonic and supersonic compressible flow. Principal analysis is one-dimensional covering isentropic flow, normal shock waves, and flow with either friction or heat transfer. Introduction is made to two and three dimensional supersonic flow with a study of oblique shock waves and expansions, and conical shock waves. Application is provided through the use of subsonic and supersonic wind tunnels, a water table, and a design problem. *2.5 Credit Hours.*

ME 482 Heat Transfer

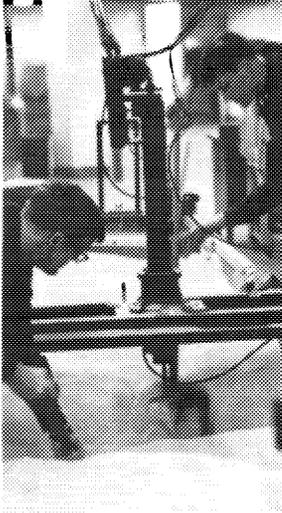
Either Term — Prerequisite: ME 302 or ME 352

This course includes the development of the basic principles of heat transfer by conduction, convection and radiation. Application of these basic fundamentals is made to boilers, condensers, heat exchangers, ablative protection of reentry vehicles and thermal control in aerospace vehicles. Mass and Momentum transfer are discussed through their similarity to heat transfer. Laboratory exercises on conduction, convection and radiation supplement classroom work. *2.5 Credit Hours.*

ME 483 Space Mechanics

Either Term — Prerequisite: PH 201 or PH 251

An introduction to the trajectory problem of the space vehicle applying the principles of mechanics to the motion of bodies in space acted upon by a central force field. The course in-



cludes a study of central force motion, and dynamics of two body conic orbits, ballistic missile trajectories, principal coordinate systems, orbit determination, and interplanetary trajectories. Brief consideration is given to orbits about an oblate earth, perturbations, the three body problem, and the n body problem.

2.5 Credit Hours.

ME 484 Aerospace Structures

Either Term — Prerequisite: ME 303 or ME 353
This course presents the development of the energy principles of classical mechanics, with applications to aircraft, missiles, and space vehicles. The course includes an introduction to variational methods, potential and complementary energy, and energy principles of elasticity. The principles of classical mechanics are applied to the bending and torsion of thin-walled, reinforced, determinate and indeterminate aerospace structures. Deflection analysis and the effects of tape are also considered.

2.5 Credit Hours.

ME 485 Continuum Mechanics

Either Term — Prerequisite: ME 384
This course forms a foundation for deeper study in elasticity. Necessary concepts and theorems of tensor geometry are developed at the start. Study of state of stress, the fundamental momentum and energy theorems, and constitutive equations form the foundation. Applications to problems with elastic materials are included.

2.5 Credit Hours.

ME 486 Mechanical Vibrations

Either Term — Prerequisite: ME 303 or ME 353
This introductory course in vibrations provides the necessary background for continued development in this rapidly expanding field. Free, damped, and forced vibrations of the linear single degree of freedom system are covered in detail. Multi-degree of freedom systems are studied with particular attention on matrix analysis, numerical methods and computer solutions. The response of mechanical systems to

random loads and selected non-linear response phenomena are introduced. Analytical methods for determining the characteristics of dynamic response are frequently verified by classroom and laboratory demonstrations.

2.5 Credit Hours.

ME 487 Introduction to Applied Aerodynamics

Either Term — Prerequisite: ME 302 or ME 352
This course is designed to provide cadets with an understanding of modern aerodynamics and a background on the increasing complexity of aircraft design and current advances in aircraft. It includes a review of fluid properties as related to the atmosphere, evaluation of aerodynamic forces, airfoil theory, aircraft performance, flight stability, and helicopter aerodynamics. Classroom work is supplemented with laboratory exercises using wind tunnels.

2.5 Credit Hours.

ME 488 Flight Mechanics

Either Term — Prerequisite: ME 487 (May be taken concurrently)

This course introduces the analysis of fixed and rotary wing aircraft performance, stability, and control during flight. Beginning with a review of the fundamental equations of motion, aircraft performance characteristics are developed. Static and dynamic stability and the effect of control surface on dynamic stability are considered in detail. Applications of theory are provided by laboratory exercises and aerial flights.

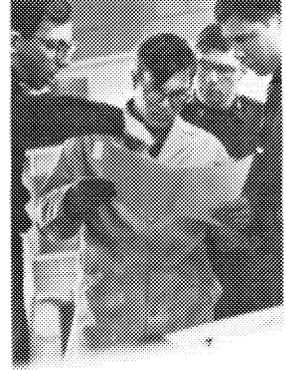
2.5 Credit Hours.

ME 489 Individual Mechanics Project

Either Term — Prerequisites: ME 301 or ME 351, ME 302 or ME 352, ME 303 or ME 353, permission of Head of Department.

This course permits the cadet to do advanced or specialized study or an undergraduate research project in the field of Applied Mechanics, Aerodynamics, Aerospace Structures, or Astronautics. The cadet chooses a plan for his own program and is individually supervised by a faculty advisor.

2.5 Credit Hours.



DEPARTMENT OF MILITARY HYGIENE



Professor and Head of Department

COL JOHN H. VOEGTLY, B.S., University of Pittsburgh; M.D., University of Pittsburgh

Assistant Professors

LTC PETER H. PATTERSON, B.A., Dartmouth College; M.D., Tufts University

MAJ DAVID B. McQUILLAN, B.A., Catholic University; M.A., Baylor University

The Department of Military Hygiene presents instruction to all four cadet classes.

Fourth Classmen receive instruction in Personal Hygiene, Field Sanitation, Self and First Aid, Sex Hygiene, and Adverse Effects of Alcohol, Tobacco and Drugs.

Third Classmen receive instruction on Medical Department Organization and Support of the Army, effects of the environment on military operations and troops in the field and additional instruction in First Aid, with emphasis on the responsibility of the Commander at the unit level.

Third, Second, and First Classmen receive additional instruction in Drug Abuse with emphasis on the aspects of troop leadership and, for First Classmen, the additional aspect of heads of family responsibilities. Additional instruction in Sex Hygiene is presented to Second Classmen during pre-AOT. Pre-marital instruction and counselling are available to First Classmen.

OFFICE OF MILITARY PSYCHOLOGY AND LEADERSHIP



Director

COL Harry A. Buckley, BS, United States Military Academy; MS, Purdue University; PhD, Purdue University

Associate Professor

LTC Quay C. Snyder, BS, United States Military Academy; MS, Purdue University

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LTC Melville A. Drisko, BS, United States Military Academy; MS, George Washington University

LTC Dan Moses, BS, United States Military Academy; MA, University of North Carolina

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MAJ John M. Little, BA, Michigan State University; MA, Michigan State University

MAJ Eugene C. Murkison, BS, University of Georgia; MBA, University of Rochester

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Assistant Directors

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MAJ Robert C. Carroll, BS, United States Military Academy; MA, Northwestern University

MAJ William M. Cross, BS, United States Military Academy; MBA, Syracuse University

LTC Robert C. Losik, BS, Wisconsin State College; MA, University of North Carolina

MAJ John D. Miller, BA, Virginia Military Institute; MPA, University of Pittsburgh

Instructors

MAJ Michael J. Bartelme, BS, United States Military Academy; MA, University of Alabama
MAJ James D. Blundell, BS, United States Military Academy; MS, University of Pittsburgh
MAJ Thomas R. Brennan, BS, United States Military Academy; MA, Northwestern University
MAJ John H. Darrow, BS, United States Military Academy; MBA, Harvard University
MAJ Fred A. Dilkes, BA, Western Maryland College; MBA, Wharton School of Business
MAJ James E. Longhofer, BA, Sacramento State College; MA, San Jose State University
MAJ James F. X. Looram, BS, United States Military Academy; MA, University of Hawaii
MAJ Glynn C. Mallory, BS, United States Military Academy; MA, University of Georgia
MAJ Leslie P. Mason, BS, United States Military Academy; MA, University of North Carolina
MAJ John C. McCormack, BS, Boston College; MA, University of North Carolina
MAJ Fred W. Schaum, BS, United States Military Academy; MBA, University of Michigan
MAJ Charles T. Westpheling, BS, United States Military Academy; MA, University of North Carolina

MAJ William L. Wilson, BS, United States Military Academy; MS, Miami University
CPT Russell A. Campbell, Jr., BS, United States Military Academy; MBA, University of New Hampshire
CPT Stephen D. Clement, BS, United States Military Academy; MS, Purdue University
LT Daniel R. Ilgen, BS, Iowa State University; MA, University of Illinois; PhD, University of Illinois



Standard Courses

PL 202 General Psychology

Both Terms — Prerequisites: None

Provides the cadet with an understanding of scientific psychology required in the development of an understanding of the human aspects of command, military operations, and technology. Specific aims and areas of study are to engender a basic usable understanding of human development and individual differences, perception, learning, thinking, motivation, and emotion, adjustment, personality, social relations, the beginnings of leadership and applied psychology. *2.5 Credit Hours.*

PL 252 Advanced General Psychology

Both Terms — Prerequisites: First 10 periods of PL 202

The course amplifies the basic content of PL 202, General Psychology, by presenting to selected cadets additional course material and experimentation necessary to develop an appreciation of psychological research. This course utilizes a laboratory program to develop an understanding of scientific methodology used in the behavioral sciences and current research being conducted in the field of psychology. *2.5 Credit Hours.*

PL 201 Military Instructor Education

Third Class Summer and Spring Semester

The course is designed to assist the cadet in developing basic teaching skills and platform presence through the actual presentation of lessons on instruction theory and military subjects.

PL 401 Military Leadership

Both Terms — Prerequisites: PL 202, 252 or validation

The course contributes to the leadership development of cadets through an in-depth inter-disciplinary study of theories, models, and behavioral science information related to leadership and the effective application of this information in a military environment. Topical problems are considered in the light of contemporary behavioral theory. *2.5 Credit Hours.*

Elective Courses

PL 481 Managerial Psychology

Both Terms — Prerequisites: PL 202, PL 252 or validation

This course provides the cadet with a conceptual grasp of the application of psychology to the management of personnel as well as programs in management, developing an understanding of common human behavior across institutions. *2.5 Credit Hours.*

PL 482 Sociology

Both Terms — Prerequisites: PL 202, PL 252 or validation

The course provides a basic understanding of one of the fundamental approaches to the study of social institutions, social problems, and processes including politics, leadership, and international affairs. Additional emphasis is also directed at the most current social problems facing the military and society. *2.5 Credit Hours.*

PL 483 Social Psychology

Both Terms — Prerequisites: PL 202, PL 252 or validation

Provides the cadet with an understanding of how individual behavior is shaped and modified through interaction with others, to include, interpersonal perception, social motivation, and attitude formation and change — concepts which color the individual's outlook toward his physical and social environment. *2.5 Credit Hours.*

PL 484 Seminar on Military Institutions

Prerequisites: PL 202 or validation

This course introduces the field of military sociology. The focus is on American military organization in interaction with its individual members, component parts and other large-scale organizations. Key study topics are: military professionalism, civil-military relations, organizational forms, the military elite, the enlisted

man, the draft, Modern Volunteer Army, racial relations, drug problems, dissent and anti-militarism.

PL 485 Behavioral Science Research

Both Terms — Prerequisites: PL 481 or PL 482 and approval of Director

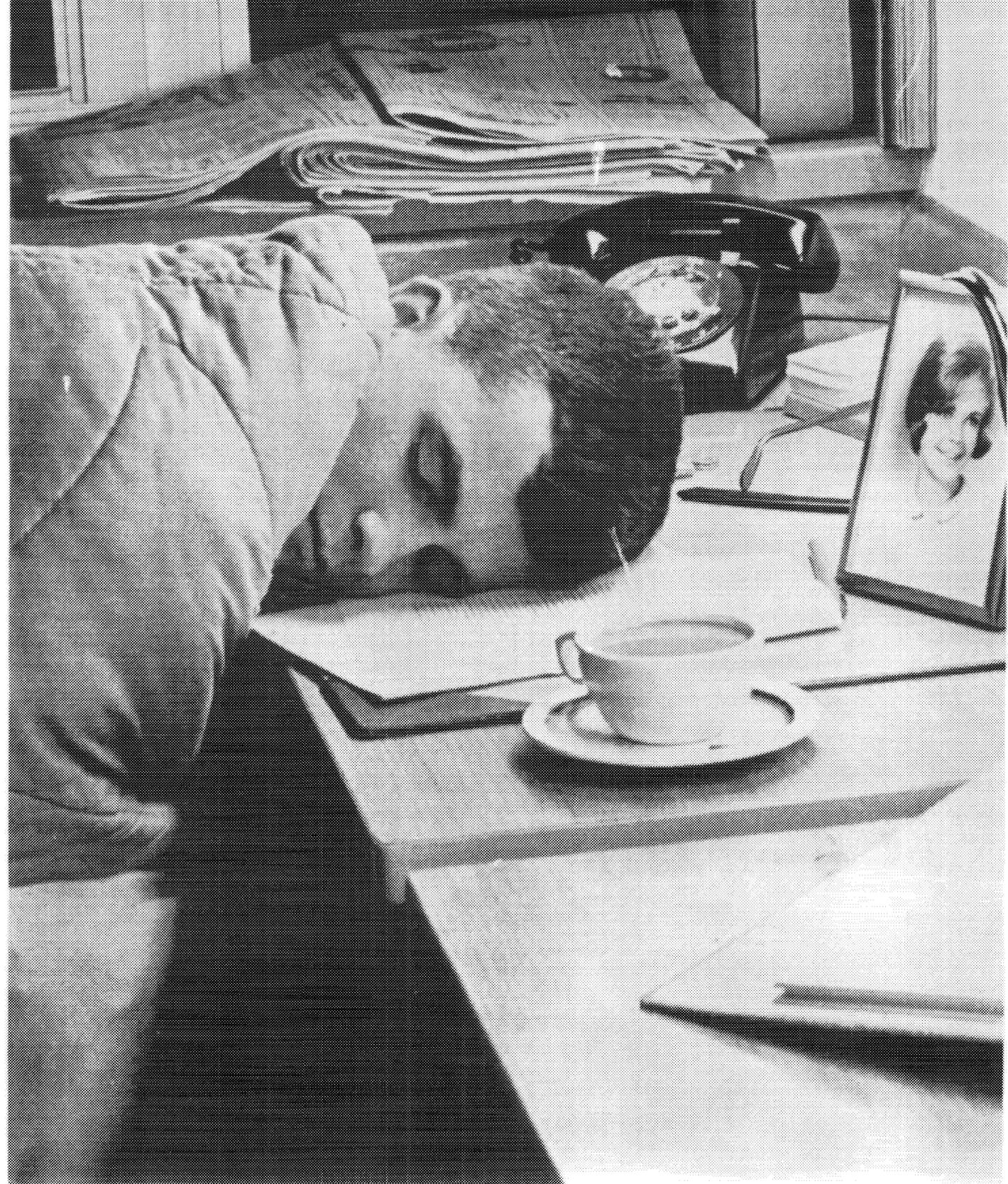
This course provides the cadet with an understanding of research design and methodologies applicable in studying topics of interest to the behavioral sciences. This objective is accomplished through the use of classroom instruction emphasizing the tools of the research scientist and an individual research project by each enrolled cadet. *2.5 Credit Hours.*

PL 486 Seminar in Organizational Behavior

Prerequisites: PL 202 or validation

This course allows the cadet to develop an analytical framework for the study of all social organizations as dynamic, living units. The objective is to develop concepts which identify the common structural and functional elements present in all social organizations — from the Black Panthers and motorcycle gangs to the Department of Defense. Integration of principles drawn from psychology and sociology, and their application to social organizations at the macro level prepare the cadet for more detailed study of military institutions as a special type of social organization. *2.5 Credit Hours.*





DEPARTMENT OF PHYSICS



Professor and Head of Department

COL EDWARD A. SAUNDERS, B.S., United States Military Academy; M.S.E.E., Purdue University; Ph.D., Rensselaer Polytechnic Institute

Professor and Deputy Head of Department

LTC WENDELL A. CHILDS, B.S., Auburn University; M.S., Stevens Institute of Technology; Ph.D., University of Virginia

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COL LOREN E. RADFORD, B.S., University of Washington; M.S., University of Virginia; Ph.D., University of Virginia

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LTC ARTHUR L. RICH, JR., B.A., Mercer University; M.S., United States Naval Postgraduate School

LTC ROBERT L. SOPER, B.S., United States Military Academy; M.S., United States Naval Postgraduate School

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CPT JAMES F. HARVEY, B.S., United States Military Academy; M.S., Dartmouth College

CPT CLYDE L. HUMPHREY, B.S., Southwest Missouri State College; M.S., University of Virginia

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CPT JESSE MOSS, JR., B.S., Hampton Institute; M.S., University of Connecticut

CPT JOHN M. PICKLER, B.S., United States Military Academy; M.S., University of Virginia



Standard Courses

PH 201 Physics I

First Term — Prerequisites: None

This course provides a common introduction to two distinct physics sequences which begin in the second term with PH 202 and PH 204. The course is a comprehensive calculus-based study of mechanics to include the laws of translational and rotational motion, conservation principles and oscillatory motion. A laboratory program designed to develop an appreciation of scientific techniques and to illustrate fundamental physical concepts is an integral part of the course. *4 Credit Hours.*

PH 202 Physics II

Second Term — Prerequisites: PH 201

This course is a calculus-based study of the fundamentals of electricity, magnetism, and optics. A comprehensive laboratory program is an integral part of the course. The emphasis is on problem solving and experimental techniques in support of future work in the sciences or engineering. *4 Credit Hours*

PH 204 Physics II

Second Term — Prerequisites: PH 201 and concentration in NSPA, Humanities or (with permission) General Studies.

This course is a calculus-based study of the fundamentals of electricity, magnetism, and optics. Emphasis is placed on understanding the nature and significance of the basic physical principles. A program designed to acquaint the student with the history and philosophy of science and the interface of physics with other disciplines is begun. *4 Credit Hours.*

PH 303 Physics III

Either Term — Prerequisites: PH 201 and PH 202 (Students from PH 204 may be permitted to take this course with Department permission).

A continuation of the PH 201 - PH 202 sequence designed to provide the student interested in

science or engineering with the fundamentals of quantum physics as applied to atoms, molecules, solids and nuclei, and some of the applications arising therefrom. A laboratory program designed to familiarize the student with radiation detection and counting devices is an integral part of the course. *4 Credit Hours.*

PH 305 Physics III

Either Term — Prerequisites: PH 201 and PH 204

A continuation of the PH 201 - PH 204 sequence designed to provide the student interested in fields other than science and engineering with the fundamentals of quantum physics, special relativity, and the structure of matter on the microscopic scale. The program begun in PH 204 concerning the impact of science and technology on society, the history of science and the interface of physics with other disciplines is continued. *4 Credit Hours.*

Elective Courses

PH 383 Introduction to Theoretical Physics I

First Term — Prerequisite: PH 201

An intermediate development of selected topics in theoretical physics. Topics covered include (1) the Lagrangian formulation of mechanics, with selected problems in particle dynamics, central force motion, and scattering and (2) a study of vibration and wave phenomena to include free and forced vibrations, normal modes, and progressive waves. *2.5 Credit Hours.*

PH 384 Introduction to Theoretical Physics II

Second Term — Prerequisite: PH 202

An intermediate development of selected topics in theoretical physics. Topics covered include Maxwell's equations, interactions of electromagnetic waves with boundary surfaces, a study of special relativity, and an introduction to the statistics of systems of particles.

2.5 Credit Hours.





PH 483 Solid State Physics

Second Term — Prerequisite: PH 303

A course in the basic fundamentals of solid state physics covering crystal structure, lattice waves, specific heat, dielectric properties, ferroelectrics, diamagnetism, paramagnetism, ferromagnetism, free electron theory of metals, Fermi-Dirac statistics, electrical and thermal conductivity, thermionic emission, Hall effect, band theory, Brillouin Zones, semiconductors, and lattice defects. *2.5 Credit Hours.*

PH 484 Quantum Mechanics

First Term — Prerequisite: PH 303

An introductory course stressing the physical meaning of quantum theory including the failure of classical theories, de Broglie waves, wave functions, eigenvalue problems, Schroedinger equations, free particle, potential well, harmonic oscillator, hydrogen atom, operators; many-electron atoms, and the Pauli principle. *2.5 Credit Hours.*

PH 486 Experimental Physics

Either Term — Prerequisites: PH 303 and one elective in Physics.

Individual advanced laboratory experiments selected by the student and performed under the supervision of a faculty advisor. Possible experiments include: normal modes of coupled systems, laser optics, Frank-Hertz, electron paramagnetic resonance, Zeeman effect, Mössbauer effect, mass spectroscopy and nuclear events. *2.5 Credit Hours.*

PH 487 Nuclear Reactor Theory

Either Term — Prerequisite: PH 303

A review of modern physics pertaining to reactor theory, radiation detection, and health physics, neutron moderation, neutron cycle balance in homogeneous and heterogeneous systems, neutron diffusion, critical equation, and critical size, short and long term transient effects, and stability. The laboratory portion of the course includes practical exercises in instrumentation and radiation detection; neutron activation and cross-section determination, thermal diffusion and Fermi age, flux distribution buckling and critical size of the subcritical reactor. *2.5 Credit Hours.*

PH 488 Nuclear Physics

Second Term — Prerequisite: PH 303

A study of selected topics in nuclear physics, including: properties of the nucleus, radius, binding energy, angular momentum, magnetic moment, a quantum mechanical treatment of alpha decay and the deuteron, nuclear models, and basic nuclear reactions. *2.5 Credit Hours.*

PH 489 Special Topics in Physics

Either Term — Prerequisites: PH 303, two electives in Physics, and permission of Head of Department.

Individually supervised research and study in a selected problem area.

DEPARTMENT OF SOCIAL SCIENCES



Professor and Head of Department

COL AMOS A. JORDAN, B.S., United States Military Academy; B.A., M.A., Oxford University; Ph.D., Columbia University

Professor and Deputy Head of Department

LTC LEE D. OLVEY, B.S., United States Military Academy; B.A., M.A., Oxford University; Ph.D., Harvard University

Associate Professors

LTC GEORGE K. OSBORN, III, B.A., M.A., Ph.D., Stanford University

LTC WALLEN M. SUMMERS, B.S., University of California at Davis, B.S., United States Military Academy; M.P.A., Harvard University

LTC WILLIAM J. TAYLOR, JR., B.S., University of Maryland; M.A., Ph.D., American University

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MAJ MELVIN R. BOWDAN, JR., B.A., University of Denver; M.A., American University

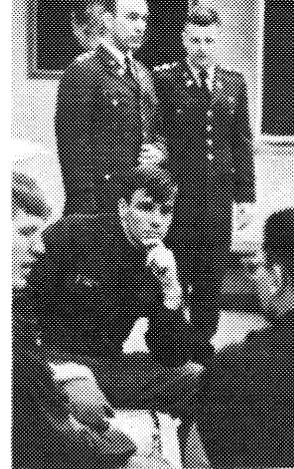
MAJ MONTE R. BULLARD, B.A., University of Michigan; M.A., University of Hawaii

MAJ EDWIN A. DEAGLE, B.S., United States Military Academy; M.P.A., Ph.D., Harvard University

MAJ WALLACE H. DUNCAN, B.S., United States Military Academy; M.P.A., Harvard University

MAJ RICHARD C. GALLAGHER, B.S., United States Military Academy; M.P.A., Princeton University

MAJ HOWARD D. GRAVES, B.S., United States Military Academy; B.A., M.A., Oxford University



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CPT DANIEL W. CHRISTMAN, B.S., United States Military Academy; M.S.E., M.P.A., Princeton University

CPT DAVID J. MYERS, B.A., M.A., Syracuse University, Ph.D., University of California at Los Angeles

Instructors

MR. CRAIG BAXTER, B.S., A.M., Ph.D., University of Pennsylvania

MAJ CLETUS A. BELSOM, B.B.A., Tulane University; M.A., Michigan State University

MAJ THOMAS M. BRENDLE, B.S., United States Military Academy; M.A., M.A.L.D., Tufts University

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MAJ JAMES R. ELLIS, B.S., United States Military Academy; M.P.A., Princeton University

MAJ SHERWOOD D. GOLDBERG, B.A., Dickinson College; M.A., University of Pennsylvania

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- MAJ CARL M. A. McCARDEN, B.A., Providence College; M.P.A., Princeton University
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MAJ BARRY J. ROLLER, B.S., United States Military Academy; M.A., Syracuse University
MAJ STANLEY W. RUSSELL, B.A., The Citadel; M.A., The Ohio State University
MAJ DON M. SNIDER, B.S., United States Military Academy; M.A., M.P.A., University of Wisconsin
MAJ PETER H. WARD, B.A., M.A., Cornell University
CPT LLOYD K. BROWN, B.S., United States Military Academy; M.S., M.A., Stanford University
CPT WESLEY K. CLARK, B.S., United States Military Academy; B.A., M.A., Oxford University
CPT BRUCE B. G. CLARKE, B.S., United States Military Academy; M.A., University of California at Los Angeles
CPT JAMES R. GOLDEN, B.S., United States Military Academy; M.P.A., Ph.D., Harvard University
CPT FRANKLIN Y. HARTLINE, B.S., United States Military Academy; M.B.A., M.A., University of Pennsylvania
CPT JAMES S. McCALLUM, B.S., United States Military Academy; M.P.A., Princeton University
CPT DONALD A. MAHLEY, B.A., Purdue University; M.A., University of Pittsburgh
CPT WILLIAM F. MURDY, II, B.S., United States Military Academy; M.B.A., Harvard Business School
CPT WILLIAM C. RENNAGEL, B.S., United States Military Academy; M.A., Ohio State University
CPT RICHARD H. SINNREICH, B.S., United States Military Academy; M.A., Ohio State University

Standard Courses

SS 301 Economic Principles and Problems

First Term — Prerequisites: None

A survey in basic economic principles and their application to public policy in this and following courses. Economic institutions, macroeconomics, and microeconomic principles, and rational decision making methods are studied.

2.5 Credit Hours.

SS 302 United States Government and Economics of National Security

Second Term — Prerequisites: None

A study of the American political system with emphasis on the processes, structures, and problems of the national government, including a survey of basic aspects of state and local administration. The subcourse in Economics of National Security studies defense decision-making as a problem of resource allocation within the political and economic environment of the nation.

2.5 Credit Hours.

SS 401 Comparative Political Systems: Europe and Asia

First Term — Prerequisites: None

A foundation of fundamental concepts of political science, particularly of comparative politics, and an analysis of various political systems of Europe (Great Britain, France, Germany, and the USSR) and Asia (China, India, and Japan). The study of the Asian nations includes a survey of the nations' historical backgrounds.

4 Credit Hours.

SS 407 International Relations

Second Term — Prerequisites: None

An interdisciplinary study of the relations between nations, building upon previous Social Sciences courses, with particular emphasis on the role of the United States in the international system. Both action and interaction theory are studied.

4 Credit Hours.

Advanced Courses

SS 351 Economics: Principles and Problems

First Term — Prerequisite: Permission of the instructor.

This course provides qualified volunteers with (1) a rigorous understanding of the basic principles of microeconomic theory and (2) competence in an analytic method which can be applied to a wide range of optimization and public policy problems.

2.5 Credit Hours.

SS 352 United States Government and Economics of National Security

Second Term — Prerequisite: Permission of the instructor.

Analysis of the political process as a vehicle for governmental policy development. The course presents in depth the complex interplay between politics and substantive issues in public policy. Extensive use of case materials drawn from contemporary issues in government.

2.5 Credit Hours.

**SS 451 Comparative Political Systems:
Europe and Asia**

First Term — Prerequisite: Student selection is based upon demonstrated performance in the Social Sciences.

This course will emphasize a developmental approach to the comparative study of selected political systems in Europe and Asia. Problems and prospects of modernization and political development will be examined. Case studies will be utilized to provide greater appreciation of the dimensions of the problems and political processes in the states studied.

4 Credit Hours.

SS 457 Advanced International Relations

Second Term — Prerequisite: Permission of the instructor.

This advanced course covers the concepts, theories, and methodologies pertaining to the academic pursuit of international politics. The course is tailored to allow cadets to pursue their individual interest in the field. In this sense, it is a capstone course that builds not only on previous social sciences courses but on the total academic program as well.

4 Credit Hours.

Elective Courses

SS 372 Policy and Administration

Second Term — Prerequisite: SS 302 or SS 352. May be taken concurrently.

The focus of the course is upon modern methods of policy development and control including organizational, personnel, budgetary and analytical techniques. Cadets are exposed to the central position of public administrators in the governmental process, and the problems of policy control in large bureaucratic organizations.

2.5 Credit Hours.

**SS 373 Political and Economic Application
of Quantitative Analysis**

First Term — Prerequisite: MA 205 or MA 207. Course may be taken concurrently with SS 301.

This course is designed to develop skills in the application of quantitative analytical tools to problems in political science, international relations, and economics. After gaining a degree of facility with quantitative methods, the cadet will design, research, and execute an original analysis of a policy issue or problem in his specific area of interest in the social sciences.

2.5 Credit Hours.

SS 383 Middle Eastern Studies

Either Term — Prerequisite: None

An introduction to the problems of the contemporary Middle East and North Africa. A brief consideration of the development of the Arab and Ottoman Empires, the growth of Islam, and penetration of the area by European states provides the foundation for an intensive study of the national political goals, social problems, and economic prospects of the present day. The Arab-Israeli conflict and the Soviet-American rivalry in the region also receive special attention.

2.5 Credit Hours

SS 384 Latin American Studies

Either Term — Prerequisite: None

This course surveys the economic, social, cultural, and political systems of contemporary Latin America. It begins by discussing the historical evolution of the region's economy, society and culture, and the political systems of specific countries. Special emphasis is given to the demands of peasants, workers, urban poor, traditional conservatives, military and middle sectors, and to Latin American styles of political decision making.

2.5 Credit Hours.

SS 385 Comparative Economic Systems

Either Term — Prerequisite: SS 301. May be taken concurrently.

This course analyzes Capitalism, Socialism, and Communism as economic systems. The history, evolution, and application of these systems are studied with particular emphasis on the American and the Soviet bloc economies of today. Divergent methods of solving problems associated with the efficient allocation of resources, distribution of income, economic growth, and stability are analyzed and compared.

2.5 Credit Hours.

SS 386 Political Philosophy

Either Term — Prerequisite: None

An introduction to the classic writings of Western political philosophy with a consideration of their application to contemporary problems. The course examines in particular the philosophy of American government and the challenges presently facing it. The course also examines certain concepts of moral, legal and general philosophy and their relation to political philosophy.

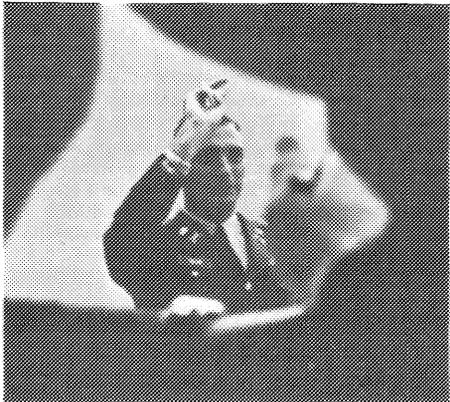
2.5 Credit Hours.

SS 387 Seminar in Public Policy

Either Term — Prerequisites: SS 301 and SS 302 or their equivalent. May be taken concurrently with SS 302. May be taken by Third Classmen selected for the debate program.

The seminar provides cadets with an opportunity to read and analyze the nature and dimensions of America's urban crisis. Emphasis is placed on the racial, economic, and political aspects of the crisis in major metropolitan areas throughout the country, and the ability of our political process to resolve these domestic problems.

2.5 Credit Hours.



SS 388 Macroeconomics: Theory and Policy

Second Term — Prerequisite: SS 301

This course covers the primary aspects of macroeconomic theory and national economic policy. Models of the economy will be analyzed and evaluated in light of such economic goals as full employment, price stability and economic growth. The course is designed to offer a blend of aggregate economic theory, empirical analysis and policy considerations.

2.5 Credit Hours.

SS 389 Managerial Economics

First Term — Prerequisite: None

The course is a study of managerial decision-making in directing and controlling an on-going organization. Managerial accounting is used to enable cadets to analyze and use financial information in realistic case studies. Cost accounting provides the primary discipline of study with an emphasis toward problem solving.

2.5 Credit Hours.

SS 471 Major Political Systems of East Asia

Second Term — Prerequisite: None

The course examines the transformation of East Asia in the 19th and 20th centuries and the salient features of the contemporary political systems of Japan, the People's Republic of China, and Korea (North and South).

2.5 Credit Hours.

**SS 482 Economic Analysis:
Theory and Defense Applications**

Either Term — Prerequisite: SS 301

This is an intermediate level course in microeconomic theory which emphasizes applications of economic analysis to defense and other governmental decisions and to the decision-making problems of business. The concepts and principles of marginal analysis are applied to the development of efficient defense policies regarding force structure, force levels, and weapons systems, to the examination and economic evaluation of various social issues, and to an analysis of the decision problems faced by business.

2.5 Credit Hours.

SS 483 National Security Seminar

Either Term — Prerequisites: SS 301 and SS 302. Course may be taken concurrently with SS 301 by cadets who have completed or validated SS 302, or concurrently with SS 302.

This professionally oriented seminar examines selected major issues affecting the national security of the United States in the nuclear age. The primary focus of the seminar is toward future and emerging challenges to national security. It examines internal violence abroad; it evaluates the policy impact of international and local war; it addresses the evolving character of strategic nuclear deterrence and strategy; it outlines the threat and promise of the explosion of military technology; and it discusses the impact of modern decision-making techniques upon the national security establishment.

2.5 Credit Hours.

**SS 484 International Economics and
Economic Development**

Second Term — Prerequisite: SS 301

This course provides a foundation in international economic theory and the theory of economic growth and uses it in the study of problems and issues in economic development. It covers the classical theory of comparative advantage and its modifications. Among the policy issues to be explored are domestic issues such as direct allocation versus allocation by the price system, and international issues such as foreign aid, and private foreign investment.

2.5 Credit Hours.

SS 485 Problems of the Developing Nations

Either Term: Prerequisite: SS 302. May be taken concurrently.

The course attempts to develop analytical tools and concepts useful for understanding the political processes, social structures and economic organization normally associated with traditional societies. The course draws upon ideas, insights, and examples from the literature of political science, sociology, economics, and cultural anthropology, and focuses upon the application of these theories to selected case studies in East Asia and Sub-Saharan Africa.

2.5 Credit Hours.

SS 486 Political and Cultural Anthropology

Either Term — Prerequisite: None

This course emphasizes the comparative analysis of various levels of society and examines the general theories about the role of culture as man's major adaptive mechanism in negotiating social and political change. Case studies of several diverse societies, ranging from the primitive to the complex industrial state are made in order to point out the value and applicability of anthropology.

2.5 Credit Hours.

**SS 487 Public Policy Decision Making
and Debate**

First Term — Prerequisite: Permission of the course director.

The course provides formal instruction in the techniques of rational decision making and persuasive argumentation, to develop in-depth skills of research in the area of governmental policy making, and to provide detailed, substantive knowledge concerning the policy issues of the national debate topic.

2.5 Credit Hours.

SS 489 Individual Social Sciences Project

Either Term — Prerequisite: Approval of the Head of the Department.

This course permits the cadet, in an environment that is conducive to independent effort, to accomplish original research or specialized study in the fields of economics, political science, or international affairs.

2.5 Credit Hours.

LECTURE PROGRAM

Lectures sponsored by the various activities at the Military Academy are coordinated 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.

The following is a representative grouping of lectures presented to the Corps of Cadets under the sponsorship of the Departments of Instruction indicated.



Department of Earth, Space and Graphic Sciences

BG Richard H. Groves, Deputy Director of Civil Works, Office of the Chief of Engineers, "Role of the Corps of Engineers in Preserving the Environment"

Dr. George Kish, Professor of Geography, University of Michigan, "Geography of Western Europe"

BG R. Fair, Department of the Army, "Role of the Computer in the Army"

Mr. Charles C. Cunningham, Vice President, North Carolina National Bank, Raleigh, North Carolina, "Role of the Computer in the Business"

Mr. Ray Harm, Conservationist and Painter, "Issues Confronting Man and His Environment"

Mr. James Endler, Vice President, Tishman Realty Construction Co., "Construction of the World Trade Centers"

Department of Electrical Engineering

BG Richard C. Horne III, Commanding General, Signal Center and School, Ft. Monmouth, New Jersey, "Communications and Electronics in the Army"

Department of Engineering

Dr. Donald F. Heany, Consultant, General Electric Company, "Management Information Systems in Industry"

Dr. Richard G. Rhoades, Director, Army Rocket Propulsion Technology and Management Center, Redstone Arsenal, "Recent Developments in Rocket Propulsion"

Richard C. Maguire, R&E Directorate, USAWECOM, "Small Arms Lecture"

Dr. John S. Foster, Director of Defense, Research and Engineering, "Engineering and Defense"

COL W. E. Vanderburg, Director, USA Engineer Nuclear Cratering Group, "Nuclear Cratering, the Army's Role in Peaceful Uses in Atomic Energy"

Mr. Donald Frei, President, General Cable Company, "Management Techniques"

Mr. John Meyer, Sverdrup and Parcel, Architects and Engineers, "Architectural-Engineering Interaction"



Department of English

- Ray Harm, Artist and Naturalist, "Wild Life Art"
- Dr. William T. H. Jackson, Professor of Germanic Languages, Columbia University, "Dante and the System"
- Dr. Charles H. Monson, Jr., Associate Vice President for Academic Affairs, University of Utah, "Philosophy"
- Dr. Edward W. Tayler, Professor of Renaissance Literature, Columbia University, "Milton's Sampson: The Form of Christian Tragedy"
- Gene Feist, Director, Roundabout Theater, New York City, "George Bernard Shaw as a Director"
- John Ciardi, Editor, Saturday Review, "The Art and Craft of Poetry"
- Ina Connaway, Artist, "Past into Present: Painting and Sculpture of Ina Connaway"
- Dr. Gilbert Highet, Author and Literary Figure, "Modern Oratory: Or How to Make Wars and Influence People"
- Dr. Arthur Mizener, Professor of English, Cornell University, "Fitzgerald and the Great Gatsby"
- Dr. Hugh Holman, Editor, Southern Literary Journal, "William Faulkner"
- Dr. Edward V. Roberts, Professor of English, City University of New York, "Writing Themes About Literature"
- Dr. Ernest Nagel, Professor of Philosophy, Columbia University, "Philosophy of Science"
- Dr. Howard M. Jones, Professor Emeritus of English, Harvard University, "American Literature"
- Dr. Virginia Raad, Salem College, West Virginia, "Impressionism in Music"
- BG Russell Alspach (Ret), former Professor and Head, Department of English, USMA, "Shakespeare, Yeats"
- Mr. Willie Morris, Editor, Harpers, "Modern Culture"
- Dr. Harold H. Kolb, Jr., Associate Professor of English, University of Virginia, "American Literature"
- Mr. Arthur Miller, Playwright, "Drama"

Department of Foreign Languages

- Professor Fred Wang, Professor of Chinese, Seton Hall University, "Chinese Calligraphy and Character Writing"
- Rafael Bosch, Assistant Professor of Spanish, New York University, "Los Paralelismos in la Poesias"
- COL Gustav von Detten, German Army Attache, "The Bundes wehr in NATO"
- Mr. Nicholas Maltzoff, Professor of Russian, Vassar College, "Geography of the Soviet Union"
- Mr. Jean-Claude Martin, Professor of French, Brooklyn College, "L'Enseignement Francais"
- MAJ John Wagglesstien, Cornell University, "Che Guevara en Bolivia"
- Mr. Francis M. Rogers, Professor of Romance Languages, Harvard University, "CABO VERDE"
- Harry Schwartz, New York Times Editorial Board, "Soviet Economy"
- Dr. William Whitson, RAND Corporation, Washington, D.C., "Chinese Military Policies and Strategies for the 1970's"
- Dr. John Plank, Professor of Political Science, University of Connecticut, "American Policy Towards Communist Regimes in Latin America"
- Dr. Donn V. Hart, Professor of Anthropology, Syracuse University, "The Philippines' Vital Center: The Rural Filipino"
- CAPT Eric Hanushek, Assistant Professor of Economics, USAFA, Colorado, "The Development and Use of Macroeconomics Models"

Department of History

- Dr. Frank E. Vandiver, Acting President and Head, Department of History, Rice University, "The Civil War"
- Professor L. Jay Oliva, Assistant Dean, New York University, "The Doldrums in Russia, 1725-61"
- LT GEN William R. Peers, Chief, Reserve Components, Department of the Army, "OSS Operations in World War II"
- Professor Neill Macaulay, Department of History, University of Florida, "The Cuban Insurgency"
- Dr. Arthur S. Link, Professor of History, Princeton University, "Wilsonian Diplomacy"
- Dr. Forrest Pogue, Director, George C. Marshall Research Foundation, "Marshall, the Man and Strategist"
- MG Edward Lansdale, USAF (Ret), "The HUKBALAHAP Insurgency"
- Professor Hans Schmitt, Professor of History, New York University, "International Diplomacy Between the Wars"
- Professor Peter Paret, Associate Professor of History, University of California, "Napolian"
- Dr. Theodore Rapp, Professor of History, Duke University, "Application of Military Power in the Nuclear Area"

Department of Law

- COL Albert S. Rakas, The Judge Advocate General's School, U.S. Army, "International Law"

Department of Mathematics

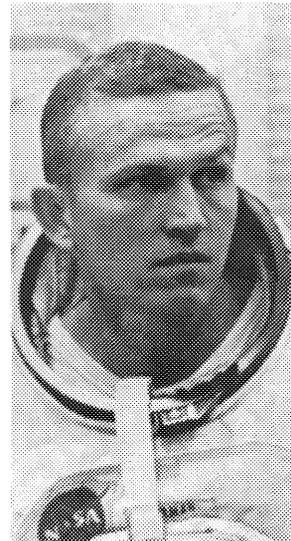
- Dr. J. Stuart Hunter, Professor, Civil and Geological Engineering, Princeton University, "Design of Experiments"

Department of Mechanics

- Mr. Michael Kornitzky, Army Materials and Mechanics Research Center, Watertown, Mass., "Modern Structural Materials"
- Richard Gottron, Chief, Fluidics Systems Development Branch, Harry Diamond Laboratories, Washington, D.C., "Thinking with Air"
- Richard L. Kline, Managing Engr, Space Shuttle Program, Grumman Aerospace Corporation, "Space Shuttle Structures"
- Professor J. P. DenHartog, Professor of Mechanical Engineering, Mass. Institute of Technology, "Mechanical Vibrations"
- Professor Arthur E. Bergles, Professor of Mechanical Engineering, Georgia Tech, "Boiling Heat Transfer"
- Professor Verne L. Roberts, Head, Biosciences Division, University of Michigan, "Biomechanics"
- Professor Dirse W. Sallet, Associate Professor of Mechanical Engineering, University of Maryland, "Theory and Proposed Applications of Ring Vortices"
- Messrs. John Ingraham and Ralph Papirno, Army Materials and Mechanics Research Center, Watertown, Mass., "Modern Structural Materials"
- COL Frank Borman (Ret), Vice President, Eastern Air Lines, "Applications of Mechanics in Space"

Department of Social Sciences

- BG Alexander Haig, Deputy Assistant to the President for National Security, "Decision Making in the Nixon Administration"
- Professor Stewart Fagan, Professor of Political Science, Columbia University, "Role of Organizing Labor in Latin America"



Hon. Robert Froehlke, Assistant Secretary of Defense (Admin), "Department of Defense Management in the Nixon Administration"

Issac Hunt, New York City RAND Institute, "Decay in the Ghetto"

Hon. David Pryor, Representative, 4th District, Arkansas, "Problems of Congressional Leadership"

Mr. William C. Sullivan, Assistant Director FBI, "Internal Security of the U.S."

Mr. Wayne Smith, Director, Program Analysis NSC, "Formulation of Foreign Policy in the Nixon Administration"

MAJ C. Powell Hutton, School of Naval Command and Staff, Newport, Rhode Island, "Oil in the Middle East"

Mr. Paul H. Ylvisaker, Professor of Urban Government, Woodrow Wilson School, Princeton University, "Current Urban Problems"

Dr. Seth Tillman, Consultant, Senate Committee on Foreign Relations, "The Evolving International System"

Dr. Phillip Taylor, Professor of Political Science, University of Houston, "Development of Democracy in Latin America"

Professor J. S. Badeau, Director of Middle East Institute, Columbia University, "Egypt in the 1970's"

Mr. Dennis Doolin, Deputy Assistant Secretary of Defense, I.S.A., "Chinese Foreign Policy"

Mr. Samuel P. Huntington, Professor of Political Science, Harvard University, "Political Development"

Professor A. A. Said, Professor of International Relations, American University, "The Relevance of Theory in International Relations"

Mr. William Kaufmann, Professor of Political Science, Mass. Institute of Technology, "The Economics of National Security"

Mr. Clay McManaway, Former Director, CORDS, "Pacification and Development"

Dr. J. C. Hurewitz, Professor of Political Science, Columbia University, "Arab Guerrillas"



Office of Military Psychology and Leadership

Dr. Lawrence D. Brennan, Professor of Business Communication, New York University, "General Communication Theory"

Mr. John J. McCarthy, Business Consultant, "Military Leadership"

Mr. Tom Leo, Manager, General Motors, Tarrytown, N. Y., "Training in GCM"

GEN William C. Westmoreland, Chief of Staff, US Army, "The Leadership Challenge"

Dr. Baradey, University of Hawaii, "Social Stratification"

Dr. John D. Weisz, Director Human Engineer Labs, "Military Application of Psychology"

LTC Charles Thomas, Psychology Consultant to Surgeon General, "Mental Health of the American Soldier"

Dr. R. Nathan, Institute for Political Psychology and International Psychology, "Psychological Warfare"

Dr. Morris Janowitz, Professor of Sociology, University of Chicago, "The American Soldier"

Mr. Joseph Littlejohn, House Officer, NAACP, "Social Responsibility of Management"

Office of Military Instruction

BG R. A. Edwards, Chief, OPD, "Junior Officers Career"

BG E. F. Davison, Director Enlisted Personnel Division, "Management of Enlisted Personnel Matters for the Platoon Leader and Company Commander"

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Librarian, Cataloging

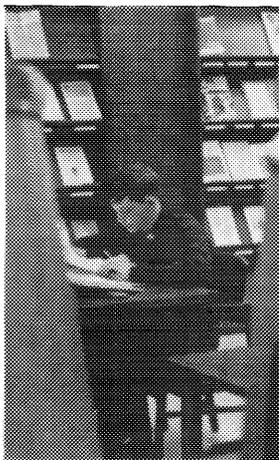
MISS ANNA E. PIERCE, B.S., State University of New York at Genesee

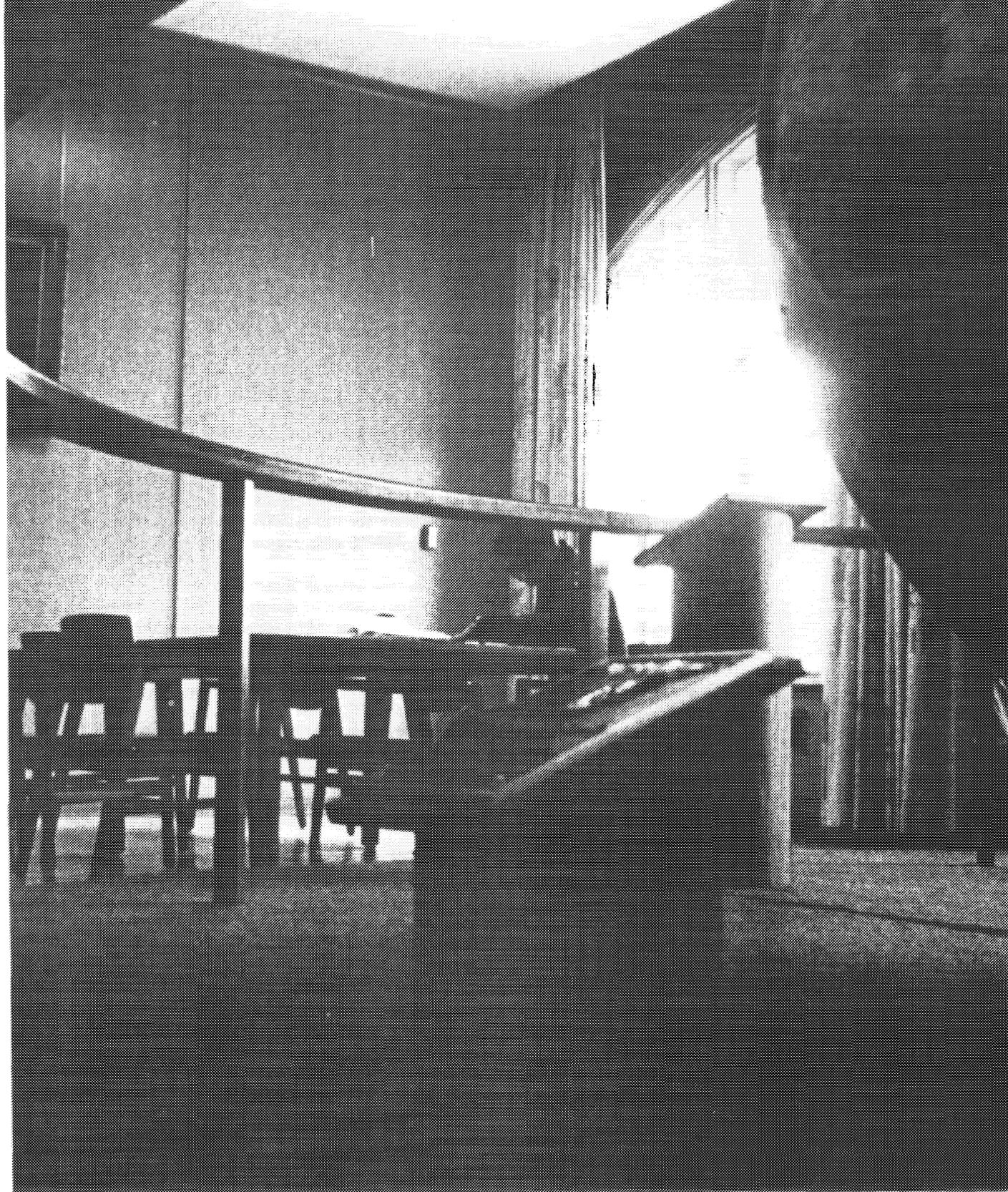
Assistant Archivist

MR. KENNETH W. RAPP

Librarian, Cataloging

MISS SHARON F. WILBUR, B.A. and M.L.S., Texas Woman's University







The library book collection contains 300,000 volumes. The building, however, has a storage capacity for 500,000 volumes and provides seating for over 1,000 readers. Current subscriptions include 1,600 periodicals and 64 newspapers, domestic and foreign. Microfilm and microcard readers and printers are available in sufficient number to make possible effective use of the library's expanding microform holdings. The audio-visual resources include approximately 6,000 disc records and tapes of linguistic materials, drama, poetry, classical and popular music. Audio booths are equipped for stereophonic listening and recording. In addition, visual materials are available in the form of prints, slides, drawings and mounted pictures.

The library is designated a partial depository for the publications of the United States Government. United Nations, NATO, SEATO and regional publications are housed in the documents room of the library.

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 substantial acquisitions were made between 1815 and 1817 when Major Sylvanus Thayer, Superintendent USMA, 1817-1833, on official duty in Europe was authorized by the Secretary of War, James Monroe, to purchase landmark texts in the arts and sciences. Major Thayer obtained about 1,000 volumes which formed the basis for early engineering education in the United States.

The present library resources are similar to those of a liberal arts college and reflect considerable strength in the mathematical, scientific, and technical fields. The library's extensive holdings in the areas of military art, history and technology have established its reputation as an important military research library.

The Special Collections Division includes substantial manuscript and rare book holdings which are concerned primarily, though by no means exclusively, with the history of the U.S. Army, the Military Academy, and persons of the military profession. The USMA Archives maintains cadet records and the Military Academy's administrative records.

Cadets have free access to the library stack areas. Oral and written instructions guide them in the use of catalogs, bibliographies and other reference resources. The facilities of the library are available to *bona fide* researchers. During the Academic Year the library is open from 8:00 A.M. to 11:00 P.M., Monday to Thursday, 8:00 A.M. to 10:00 P.M., Friday, 8:00 A.M. to 9:00 P.M., Saturday, and 1:30 to 11:00 P.M., Sunday. The Special Collections Division and the USMA Archives are open from 8:00 A.M. to 4:30 P.M. Monday through Friday.

GRADUATE CIVIL SCHOOLING

The expanding world commitments of the Army, and technological advances, have created an increasing requirement for officers to attend civilian graduate institutions. It is anticipated that approximately 80 per cent of Academy graduates remaining on active duty will attend graduate school under the auspices of either the Early Graduate Schooling program, the Civil Schooling program, or on a scholarship or fellowship.

Early Graduate Schooling Program

Distinguished Graduates of the Military Academy, the top five percent of each class, may be selected for immediate return to the graduate school of their choice. These officers may defer their graduate studies until a later time, if they prefer.

Civil Schooling Program

Qualified graduates may anticipate selection for attendance at graduate school in a master's or doctoral program between their fourth and tenth year of military service.

Medical Schooling

Graduates who are highly motivated toward careers as Army physicians, the number not to exceed one per cent of the class, may enter medical school immediately after graduation.

Rhodes Scholarships

From the first USMA participation in the Rhodes Scholarship program in 1923, forty-nine Military Academy graduates have been awarded Rhodes Scholarships to attend Oxford while on active duty as commissioned officers.

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 two years; 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 from their home, or New York State, must be accredited by the Academic Board. A Committee of Selection in each state recommends two candidates yearly to a six-state District Committee, which then selects the most outstanding four scholars.

Selection is based upon 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 of moral force of character and of instincts to lead and to take an interest in his schoolmates; and, (4) physical vigor as shown by fondness for and success in manly sports.

Scholars are not chosen, however, from a system of averaging the above prerequisites. The first two groups of qualities are considered the most important, and committees are particularly interested in distinction of intellect and character giving promise of outstanding achievement in later life. Rhodes hoped that the scholar would "esteem the performance of public duties as his highest aim."



Olmsted Scholarships

The George Olmsted Foundation annually awards two scholarships to graduates of the Military Academy for two years of study at a foreign university in an other than English speaking country. Officers are considered for scholarships upon completion of a minimum of three years of service. The Foundation makes the selection from names submitted for consideration to the Department of the Army by the Academic Board. Selection criteria consist of both demonstrated scholastic ability and character and leadership traits at the United States Military Academy and in the military service after graduation. Universities attend by Military Academy graduates under this program have included those in Geneva, Grenoble, Heidelberg, Brussels, Tokyo, Freiburg, Paris, Lyons, Madrid, Bonn, and São Paulo.

National Science Foundation Fellowships

Cadets annually compete for the one- or two-year National Science Foundation Graduate Fellowships, which provide for outstanding students to pursue graduate studies at the university of their choice. Selection is based upon academic records and examinations administered by the National Science Foundation. Since cadets began competing in 1961, a total of 23 have been awarded fellowships and 87 have received honorable mention.





MILITARY PROGRAM

MISSION

To develop the qualities and attributes of leadership with emphasis on character as exemplified by integrity, morality, discipline and a strong sense of duty and responsibility.

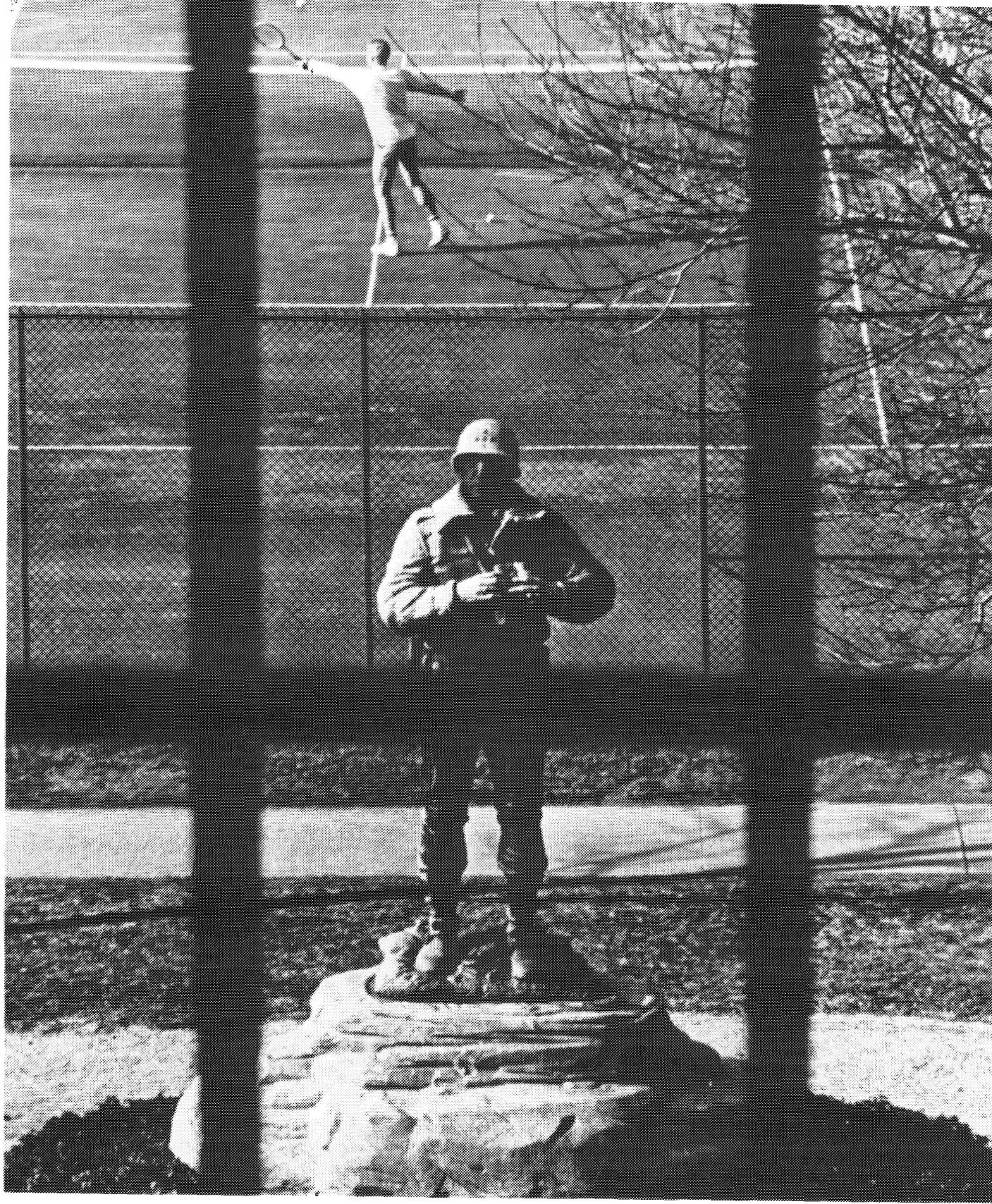
To provide a broad basic military education.

To develop high standards of physical fitness.

To instill the motivation essential to the profession of arms and to provide orientation for a career in the United States Army.

Military instruction concentrates on the fundamental concepts of tactics, study of leadership techniques, training in physical education, and indoctrination in career planning and motivation. It provides study, practice and orientation in the history, materiel, methods, and techniques of the Army and the other services of the Armed Forces of the United States. With this background the graduate has the foundation necessary for his progressive and continued development throughout his career as an officer of the Regular Army.

	Page
Corps of Cadets — Organization	106
Pay and Allowances	106
Appointment Upon Graduation	107
Leadership Evaluation System	107
The Honor Code	108
Typical Daily Schedule	109
Department of Tactics	111
Offices of Instruction	115



THE UNITED STATES CORPS OF CADETS ORGANIZATION



The student body at West Point is called the United States Corps of Cadets. The approximately 4,100 cadets of the Corps are organized into a brigade of four regiments. A cadet regiment consists of three battalions containing three companies, for a total of 36 companies in the brigade. Cadets of all four classes are assigned to each company, giving each company a strength of approximately 105 cadets.

The officer and senior noncommissioned officer positions within the cadet brigade are filled by cadets selected from the First (senior) Class. In command of the brigade is the Brigade Commander (Cadet First Captain) who has a staff consisting of a Deputy Brigade Commander, a Brigade Adjutant, a Brigade Operations Officer, a Brigade Supply Officer, a Brigade Activities Officer, and a Brigade Athletic Officer. The four cadet regimental commanders and twelve cadet battalion commanders have staffs similar to that of the Brigade Commander. A cadet company commander is in charge of each company with subordinate cadet officers and non-commissioned officers in charge of smaller elements.

PAY AND ALLOWANCES

Cadets are members of the Regular Army and receive one-half of the basic pay of a Second Lieutenant with under two cumulative year's service. This amount exceeds \$2,700 per year from which they must pay for their uniforms, textbooks, and incidentals. Room and board, and medical care are provided. The pay and allowances received are adequate to cover all expenses.



APPOINTMENT UPON GRADUATION

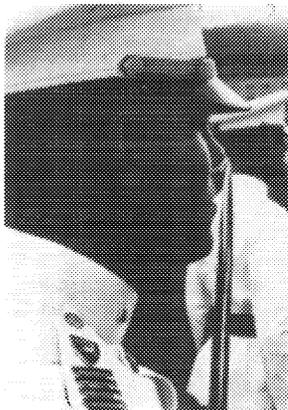
When a cadet has completed the course of instruction and meets required standards, he is, upon graduation, appointed a Second Lieutenant in the Regular Army of the United States.

LEADERSHIP EVALUATION SYSTEM

The Leadership Evaluation 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 performance and 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. A relative standing 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 is informed of his general ranking within the class. The objective ratings are supplemented 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. He conducts a series of interviews with each of his cadets in which he



discusses any observed shortcomings, along with their 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 required leadership standards, 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 Commandant reviews each board proceeding and refers those cases involving deficiency to the Superintendent for action by the Academic Board. These cases are then handled in the same manner as deficiency in an academic subject. All cases involving recommendation for separation by the Academic Board are referred to the Department of the Army for final approval.

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, or tolerate those who do. 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 his 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 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 that requires the cadet to make decisions based on his sense of honor many times a day during his 4 years at the Academy. In this respect the Honor System serves as a training vehicle to instill within each cadet the desire to abide by the precepts of the Honor Code.

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 and System. It explains to the Corps the principles upon which the Code is based and guards against 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 standards of the Code are upheld while protecting the rights of the cadet 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. New Cadets 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.

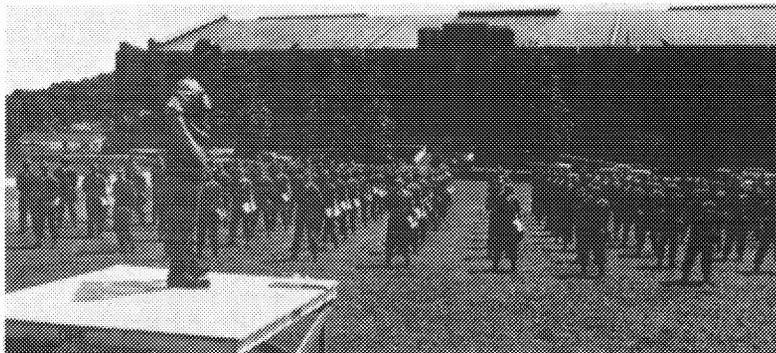
TYPICAL DAILY SCHEDULE

Morning:

6:15	Reveille
6:15- 7:00	Breakfast
7:45-11:50	Class or study
12:10-12:50	Dinner

Afternoon:

1:05- 2:05	Class or study
2:15- 3:15	Class or study
3:40- 6:00	Intramural/intercollegiate athletics, or study time, parades, or extracurricular activities
6:15- 7:00	Supper
7:20-10:50	Study time
11:00	Taps. Late lights authorized for study purposes.



The schedule shown above is a typical daily schedule for a cadet during the academic year, September through May. Cadets also attend classes on Saturday morning. During the summer months, June through August, cadets take leave for approximately one month and devote the remaining time to military training.



DEPARTMENT OF TACTICS

Commandant of Cadets

BG SAM S. WALKER, B.S., United States Military Academy; M.S., George Washington University

Aide-de-Camp

CPT JAMES B. STAPLETON, B.S., United States Military Academy; M.B.A., Fairleigh Dickinson University

Deputy Commandant

COL WILLIAM L. WEBB, SR., B.S., United States Military Academy; M.A., University of Pennsylvania

S1, USCC

LTC ROBERT E. AYERS, B.S., United States Military Academy; M.S., California Institute of Technology, Pasadena, California (PG)

Assistants S1:

MAJ JEROME J. COMELLO, B.S., United States Military Academy

MAJ ARTHUR S. DERVAES, III, B.M.E., Texas Christian University

MAJ HARRY MEETH, III, B.S., United States Military Academy; M.S., Stanford University

Operations Officer

MAJ JAMES F. MACGILL, B.S., United States Military Academy

Assistant Operations Officers

MAJ DAVID G. COTTS, B.S., United States Military Academy; M.S., Iowa State University

MAJ JOSEPH E. GROSS, III, B.S., United States Military Academy; M.S., Ohio State University

S4, USCC

LTC RICHARD S. KEM, B.S., United States Military Academy; M.S., University of Illinois (PG)

Assistants S4

MAJ GARY L. BROWN, B.S., United States Military Academy

MAJ HANS O. WAGNER, B.S., United States Military Academy

CAO

MAJ SAMUEL P. COLLINS, JR., B.S., United States Military Academy; M.S., University of Illinois

Assistant CAO

MAJ GEOFFREY D. WITHERS, B.S., United States Military Academy

USNA LNO

MAJ CHARLES L. WUERPEL, B.S., United States Military Academy; M.S., University of Wisconsin

USAFA LNO

MAJ ROBERT J. WEINFURTER, B.S., United States Military Academy

Royal Military Academy LNO

CPT ROGER YANKOUPÉ, B.S., United States Military Academy; M.A., University of Illinois

1st Regiment

Commanding Officer

COL FLOYD G. STEPHENSON, B.S., United States Military Academy

Executive Officer

LTC ANDREW R. FOSTER, JR., B.S., United States Military Academy

S1

MAJ CHARLES R. BAKER, B.S., United States Military Academy

Tactical Officers

MAJ GEORGE T. CROSBY, B.S., United States Military Academy

MAJ JOHN H. DORLAND, B.S., United States Military Academy; M.S., University of Southern Mississippi

MAJ HENRY S. LARSEN, JR., B.S., United States Military Academy; M.S., Purdue University

MAJ PATRICK M. TRINKLE, B.S., United States Military Academy

MAJ TERRENCE M. WALLACE, B.B.S., Niagara University

MAJ GERALD E. WEBB, B.A., Rutgers University

CPT JAMES B. BRIGGS, B.S., Texas A&M; M.S., Texas A&M

CPT COLIN O. HALVORSON, B.S., United States Military Academy; M.S., University of Colorado

CPT GERALD C. WERNER, B.S., United States Military Academy; M.S., Purdue University

2nd Regiment

Commanding Officer

COL CLAYTON L. MORAN, B.S., United States Military Academy

Executive Officer

LTC ROBERT C. BACON, B.S., United States Military Academy

S1

MAJ PAUL M. JONES, B.S., United States Military Academy

Tactical Officers

MAJ DAVID L. COLE, B.S., United States Military Academy; M.S., Purdue University

MAJ JOHN V. GALLUCCI, B.A., Gonzaga University; M.S., Gonzaga University

MAJ SABIN J. GIANELLONI, III, B.A., The Citadel

MAJ EDWARD M. GRIPKEY, B.S., United States Military Academy

MAJ COURTNEY M. RITTGERS, B.S., United States Military Academy

MAJ WAYNE R. WILLIAMS, B.S., United States Military Academy

CPT PETER E. GLESZER, B.S., United States Military Academy; M.S., Purdue University

CPT STEPHEN J. KEMPF, B.S., United States Military Academy; M.S., University of Minnesota

LCDR DAVID R. YONKERS, B.S., University of Michigan; M.S., Naval Post Grd School

**3rd Regiment
Commanding Officer**

COL RAYMOND MALADOWITZ, B.S., United States Military Academy; M.A., Middlebury College

Executive Officer

LTC MICHAEL P. JUVENAL, B.S., United States Military Academy; MSEE Georgia Institute of Technology

S1

MAJ ROBERT F. FOLEY, B.S., United States Military Academy

Tactical Officers

MAJ ROGER W. GREEN, JR., B.S., United States Military Academy

MAJ KENNETH N. HOLLANDER, B.S., United States Military Academy

MAJ JON F. NITKOWSKI, B.S., United States Military Academy; M.S., University of Utah

MAJ DANIEL R. SCHROEDER, B.S., United States Naval Academy; M.S., USAF Institute of Technology

MAJ ROBERT A. ZELLEY, B.S., United States Military Academy

CPT JOHNNIE H. HALL, B.S., United States Air Force Academy

CPT HIGGINS, B.S., United States Military Academy; M.S., Syracuse University

CPT FREDERICK A. KYLE, B.S., Virginia Polytechnic Institute; M.S., University of Utah

CPT FREDERICK PETERS, B.S., Southern University of Baton Rouge, La.

**4th Regiment
Commanding Officer**

COL JOSEPH L. FANT, III, B.S., United States Military Academy; M.A., University of Pennsylvania

Executive Officer

LTC THOMAS N. GRIFFIN, B.S., United States Military Academy; M.S., George Washington University

S1

MAJ TRAVIS N. DYER, B.S., United States Military Academy

Tactical Officers

MAJ JOSEPH F. MANZI, JR., B.S., University of New Hampshire; M.E., Texas A&M

MAJ FRANK W. PARKER, B.S., The Citadel

MAJ EDWARD G. RAPP, B.S., University of Mo. at Rolla, Geol, E., Colo. School of Mines

MAJ CHARLES SCHMIDT, B.S., United States Military Academy; M.S., Minnesota University

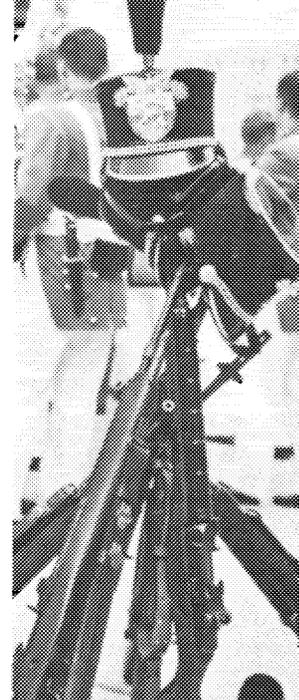
MAJ JOSEPH D. SZWARCKOP, B.S., United States Military Academy

MAJ ROBERT A. TURNER, B.S., United States Military Academy

MAJ DANIEL A. WILLSON, B.S., United States Military Academy

CPT JAMES E. BRYON, B.S., United States Military Academy

CPT HAROLD A. JENKINS, B.S., United States Military Academy; M.S., Purdue University





OFFICES OF INSTRUCTION

OFFICE OF MILITARY INSTRUCTION



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COL R. L. GRUENTHER, B.S., United States Military Academy; M.S., Springfield College; Army War College

Deputy Director

LTC S. M. VINCENT, B.A., University of Omaha; Army War College

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SR ADA INSTR: MAJ RUMPH, B.S., United States Military Academy

SR ARMOR INSTR: MAJ R. B. GARRETSON, B.S., United States Military Academy

SR ENGR INSTR: MAJ J. J. HARMON, B.S., United States Military Academy; M.S., Princeton University

SR FIELD ARTY INSTR: MAJ F. J. BOCHNOWSKI, B.S., United States Military Academy

SR INFANTRY INSTR: MAJ W. S. CARPENTER, B.S., United States Military Academy

SR MILITARY INTELLIGENCE INSTR: MAJ J. D. DeWAR, B.S., United States Military Academy

SR SIGNAL INSTR: MAJ B. N. THOMAS, B.S., United States Military Academy

AVIATION INSTR: MAJ J. S. HAHN, B.S., United States Military Academy

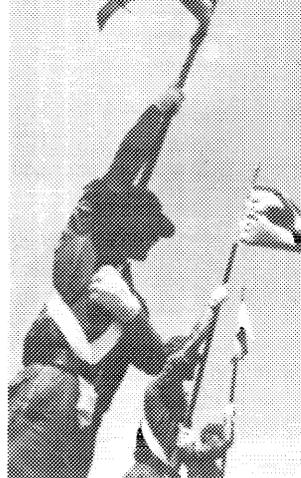
COURSE DIRECTOR: MAJ T. H. BRETT, B.A., The Citadel

Military Science Branch

CHIEF: LTC J. B. TOWER, B.A., Park College; M.S., George Washington University; Naval War College

Operations Officer

MAJ M. J. MORIN, B.A., Knox College



Course Directors

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CPT R. C. KUHLBLANK, B.A., University of Washington; M.S., Purdue
CPT J. S. JENKINS, JR., B.A., South Carolina State College

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MAJ J. P. FANNING, B.S., United States Military Academy
MAJ M. J. HAGUE (British Army), Royal Military Academy, Sandhurst
MAJ W. A. SCHNEIDER, B.S., St. Peter's College
MAJ J. T. SCOTT, B.S., Texas A&M University

Plans Branch

CHIEF: LTC H. B. RHYNE, B.S., United States Military Academy; M.A., American University; Army War College

Programs Officer

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MAJ T. W. KARR, B.S., United States Military Academy

Plans Officer

MAJ R. C. ALBERTELLA, B.S., St. Bonaventure University
CPT W. A. HUSSONG, JR., B.A., University of Hawaii



Fourth Class Military Instruction

Summer

Fourth Class Summer Training

The summer period consists of basic military training in preparation for military life and orientation and indoctrination in duty, honor, and the traditions of West Point. The period in New Cadet Barracks is one of intensive fundamental military training to include qualification with the U.S. Army rifle and basic individual training 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 Military Science I

MS 101 Introduction to Military Science

The instruction is designed to develop in the

cadet an appreciation of the history and traditions of the profession of arms and to instill a pride in that profession; to provide the cadet with a working knowledge of basic map reading in preparation for subsequent military training.

1.5 Credit Hours.

MS 102 Fundamentals of Military Operations

Continued instruction in map and aerial photograph reading to enable the cadet to recognize and evaluate landforms and their effect on military operations. Instruction is designed to develop a basic understanding of the principles and procedures employed in planning and executing military operations and in applying this knowledge to rifle platoon operations.

1 Credit Hour

Third Class Military Instruction

Summer

Third Class Summer Training

To enhance soldier skills in marches, fieldcraft, communications, land navigation, adjustment of indirect fire, first aid, mountaineering, hand to hand combat, survival and individual protective measures against chemical, biological and radiological attacks; to provide familiarity with the mission, organization and employment of the infantry, tank and armored cavalry platoons to include firing of weapons organic to the maneuver battalion and in experience in small unit tactics at squad and platoon level in both daylight and night operations; to provide orientation on the combat support role of the Field Artillery Battery, Air Defense Artillery, the Combat Engineer Company, and the Communications Platoon; to provide an orientation on the planning and conduct of airmobile operations; to develop self-confidence through performance under conditions of mental and physical stress; to provide high standards of physical conditioning, appearance, discipline and esprit; and to provide leadership experience through troop leading in a simulated combat environment.

*7.5 Weeks. Ungraded.**

Academic Year

Career Training

MI 201 Service Orientation

A series of conferences and seminars designed to broaden the military background of the Third Classman, to acquaint him with the Army way of life, and to familiarize him with the management policies for career patterns, development and utilization of commissioned officers in the U.S. Army.

Ungraded.

Military Science II

MS 202 Command Functions

A series of conferences and practical exercises to teach the cadet the basic considerations and resources available to the commander in the application of military power. The course stresses command and staff relationships, the functional staff areas of personnel, intelligence, operations, logistics and civil affairs and the content and application of the estimate of the situation and the operation order.

1.5 Credit Hours.

Second Class Military Instruction

Summer

Second Class Summer Training

The cadet visits Fort Monmouth and Fort Belvoir and receives an orientation on the roles, missions, and new developments in the Signal and Engineer branches.

*Ungraded.**

The cadet has an opportunity to participate in Airborne Training at Fort Benning, Georgia. Duty as a platoon leader with a combat unit of the U.S. Army.

*1 Month. Ungraded**

Academic Year

Career Training

MI 302 Introduction to Career Planning

An introduction to career planning to include the challenge of the profession of arms, junior officer experiences, and branch selection considerations.

Ungraded.

Military Science III

MS 301 Combined Arms Operations

Instruction addresses the organization and basic principles employed by combined arms forces at battalion level.

1.5 Credit Hours.

MS 302 Task Force Special Operations

Instruction applies the principles of offensive and defensive tactics, to special operations, airborne, airmobile, river crossings, combat in built-up areas and the special consideration of nuclear warfare.

1.0 Credit Hours.

First Class Military Instruction

Summer

First Class Summer Training

(1) An orientation on the roles, tactics, techniques, equipment, and new developments in Infantry, Armor, Artillery, and Air Defense Artillery through an orientation trip to selected military posts.

*2.5 Weeks. Ungraded.**

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

*4 Weeks. Ungraded.**

Academic Year

Career Training

MI 400 Career Planning

Guidance on career planning designed to assist in making the transition from cadet to junior officer, to prepare the cadet for his immediate decisions in selecting a branch of service and first duty station, and orientations in preparation for his initial schooling and troop assignments.

Ungraded.

Military Science IV

MS 401 The U.S. Army in Stability Operations

Instruction in that portion of internal defense and internal development assistance operations provided by the U.S. Army, with emphasis on the tactics and techniques of the brigade, battalion and company operating in a counter-guerrilla environment.

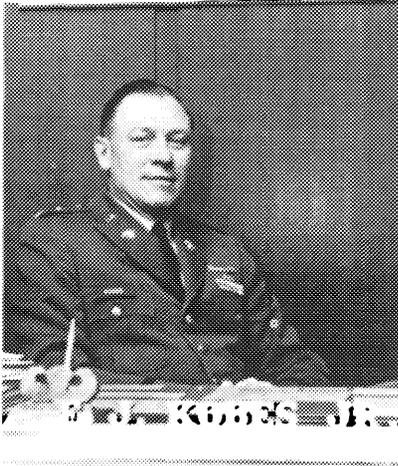
1.5 Credit Hours.



* Satisfactory completion is a prerequisite for receiving full credit for academic year instruction.



OFFICE OF PHYSICAL EDUCATION



Permanent Professor and Director of Physical Education

COL FRANK J. KOBES, JR., B.S., United States Military Academy; B.A., Doane College; M.A., New York University

Deputy Director

LTC WALTER C. ANHALT, B. Ed., University of Omaha

Chief of Instruction

MAJ HERMAN T. EUBANKS, B.S., United States Military Academy; M.A., Indiana University

Associate Professors

MAJ MICHAEL T. PLUMMER, B.S., United States Military Academy; M.S., Indiana University

MR. ROBERT E. SORGE, B.S., Shippensburg State Teachers College; M.A., Columbia University

MAJ ELIOT V. PARKER, JR., B.S., United States Military Academy; M.S., Wisconsin University

MR. JOHN B. KRESS, B.S., Teachers College, Columbia University; M.A., Teachers College, Columbia University

MR. HERBERT J. KROETEN, B.A., University of Minnesota; M.Ed., Ohio State University

Assistant Professors

MAJ RICHARD A. BUCKNER, B.S., United States Military Academy; M.S., Wisconsin University

MR. GEORGE W. LINCK, B.S., Springfield College; M.A., Teachers College, Columbia University

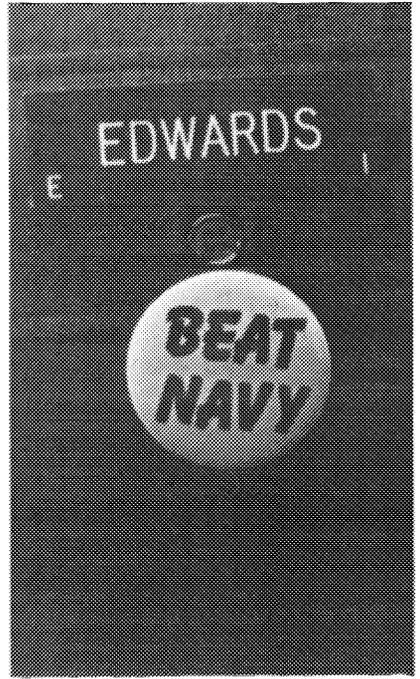


Instructors

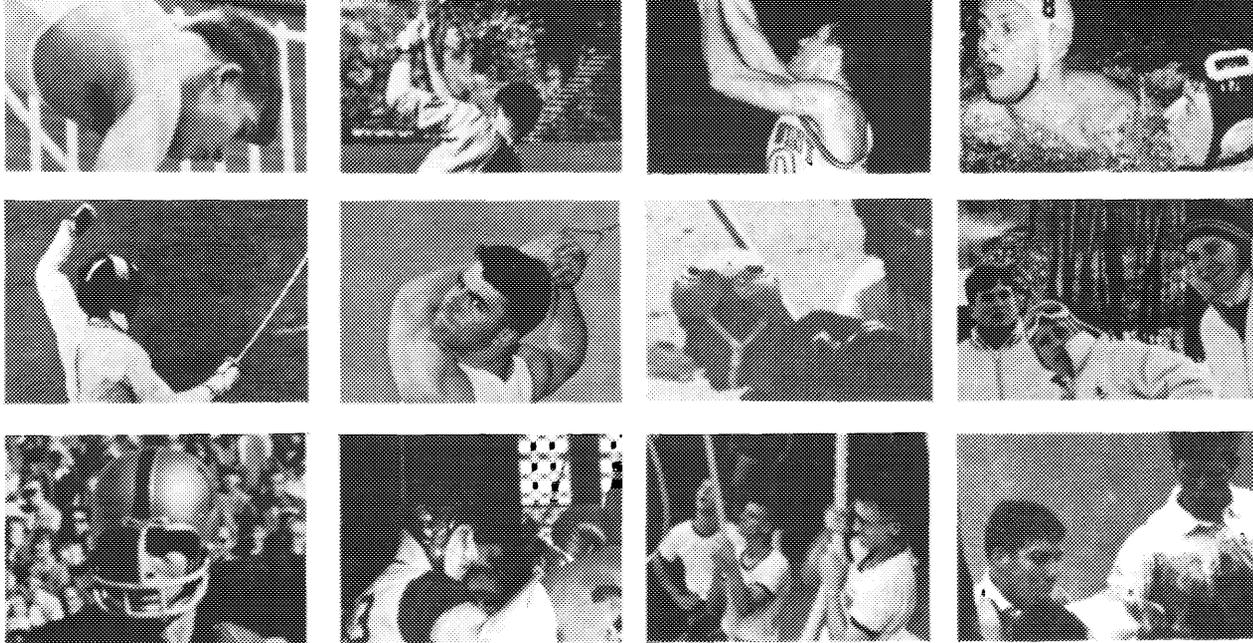
MAJ HOWARD P. BLOUNT, B.S., North Georgia College
MAJ ROBERT B. CAIRNS, B.S., United States Military Academy; M.S., Wisconsin University
MAJ PATRICK L. CANARY, B.S., United States Military Academy; M.S., Indiana University
MAJ MICHAEL E. EKMAN, B.S., United States Military Academy; M.S., Indiana University
MAJ WILLIAM A. JUERGENS, B.S., Wisconsin University
MAJ WILLIAM F. LADD, B.S., Wheaton College; M.S., Indiana University
MAJ FLOYD H. McAFEE, B.S., University of Illinois; M.S., Indiana University
MAJ DWAIN T. MOENTMANN, B.S., United States Military Academy
MAJ JOSEPH D. NUNNELEE, B.S., United States Military Academy; M.S., Indiana University
MAJ BEVERLEY E. POWELL, JR., B.S., United States Military Academy
MAJ FRED E. REDD, B.S., Southwest Missouri State University; M.A., Southwest Missouri State University
MAJ EMIL M. ROPER, B.S., University of California, Los Angeles
MAJ ROBERT L. SLOANE, B.S., United States Military Academy; M.S., Wisconsin University
CPT DENNIS S. FORBES, B.S., Wichita State University; M.A., Wichita State University
CPT JAMES B. STAPLETON, B.S., United States Military Academy
CPT HERBERT G. VAUGHAN, B.S., United States Military Academy; M.S., Indiana University
1LT DENNIS M. GERKE, B.S., M.A., University of Oregon
1LT WILLIAM E. KETCHAM, B.S., Indiana University; M.S., Indiana University
2LT JAMES P. BRIK, B.A., Idaho State University; M.P.E., Idaho State University
2LT ROBERT W. ZOLL, B.S., Indiana University; M.S., Indiana University
DR. ROBERT W. STAUFFER, B.S., Frostburg State University; M.S., University of Virginia; Ed.D., Temple University
MR. LEROY A. ALITZ, B.A., University of Iowa; M.A., University of Iowa
MR. JOHN D. LEMPERLE, B.S., University of Utah; M.S., Idaho State University
MR. WILLIAM F. LEWIS, B.S., Springfield College; M.A., New York University
MR. JOSEPH M. PALONE, B.S., Cortland State College; M.A., New York University
MR. HENRY J. VEIX, B.S., Cortland State College, M.A., Teachers College, Columbia University
SP RICHARD C. BURMANN, B.S., Ball State University
SP ROBERT W. CARGILL, B.S., Springfield College
SP ROBERT G. DAVIS, B.A., University of North Carolina
SP MICHAEL D. STANLEY, B.A., Adams State College

Trainer

SP RICHARD L. SANDOVAL, B.S., Kansas State Teachers College; M.S., Southwest Missouri State University







Physical Education courses are designed to increase muscular strength, power, endurance, cardiovascular endurance, fundamental coordination, balance and flexibility; to enhance mental health and efficiency; and to develop the personal requisites necessary for military effectiveness and leadership.

Standard Courses

PE 100 Foundations in Physical Education

This course emphasizes the development of basic physical ability through instructional participation in boxing, gymnastics, swimming and wrestling interspersed with lectures on applied physiology. Instruction is provided in the carry over sports of golf and tennis. Accelerated students participate in handball and squash. Standards of physical performance must be met.

3 Credit Hours.

PE 200 Sports Orientation

The objective of this course is to provide basic instruction in carry over sports skills, to improve physical development and to prepare for leadership in physical training. It includes instruction and experience in conducting conditioning exercises and allied physical training activities. Standards of physical performance must be met.

1.5 Credit Hours.

PE 300 Sports Leadership

This course places emphasis on leadership instruction and experience. Further instruction is given in sports skills, instructor preparation, coaching techniques and athletic coaching experience. Standards of physical performance must be met.

1.5 Credit Hours.

PE 400 Advanced Sports Leadership and Athletic Skills

The objective of this course is the development of instructor and leadership training through the administration of third and fourth class summer physical training program. Instruction for the further expansion of the individual repertory of individual and team sports is provided. Emphasis is placed on carry over athletic skills which promote physical fitness. Standards of physical performance must be met.

1 Credit Hour.

Additional Courses Individual Instruction

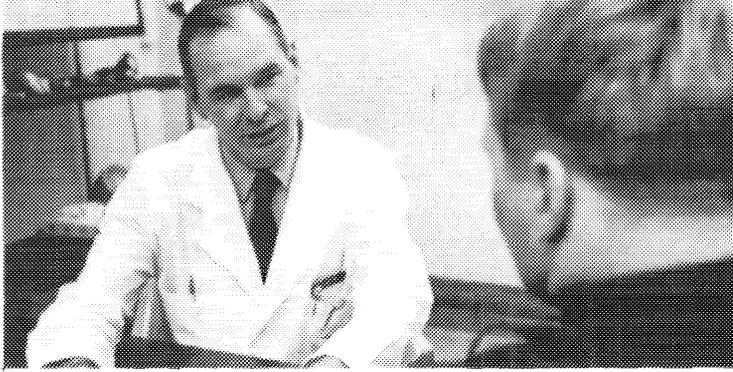
Special program of instruction in weight control, reconditioning, basic swimming, posture, corrective exercise and physical conditioning to assist those who experience difficulty in achieving minimum standards of proficiency. Open to all classes.

Intramural Athletic Participation

The intramural athletic program is scheduled in three seasons, fall, winter, and spring. Cadets not on intercollegiate teams are required to participate under PE 100, 200, 300 and 400. The program consists of eighteen sports consistent with physical education objectives to provide broad sports experience, to promote physical activity and to provide leadership experience in athletics.

Annual Physical Fitness Tests

Physical Fitness Tests, Physical Ability Tests, Obstacle Course Runs and Physical Combat Proficiency Tests are conducted in the fall and spring of each year. Performances are graded under PE 100, 200, 300 and 400.



COUNSELING AND ADVISING

The Office of the Dean, the Academic Departments, the Department of Tactics, Chaplain, Surgeon, Treasurer, Registrar, and upper class cadets are available at all times to assist and offer guidance to cadets.

The Commandant is responsible for the overall counseling and administration of cadets. He exercises this function directly through Company Tactical Officers of the Department of Tactics, the Cadet Counseling Service of the Office of Military Psychology and Leadership, the Director of Physical Education, Cadet Officers, the Cadet Hostess, and through referral to the academic counselors in the Office of the Dean, faculty members, Chaplain, Surgeon, or Treasurer. Each Company Tactical Officer is responsible for the administration, training, welfare, and morale of his cadet company: Through daily, personal contact, the Tactical Officer is able to provide advice and guidance in overcoming personal problems that do not require professional care. The Cadet Chain of Command is also extremely effective in dealing with cadet problems on a peer counseling basis.

Professional counseling and advising is likewise provided by the Cadet Counselors and the Cadet Chaplains. Assistance in Physical Education matters is provided by the Office of Physical Education Staff Officers assigned to each company as a guidance counselor. Assistance concerning social problems is available through the Cadet Hostess.

Career counseling is also the responsibility of the Commandant, jointly through the Company Tactical Officer and the Office of Military Instruction.

The Dean of the Academic Board is responsible for counseling cadets on concentration of electives, overload courses, and elective course selection and changes; for course scheduling; and for coordination with the departments on problems of scheduling, eligibility and course changes.

The academic departments are responsible for counseling cadets on eligibility for validation and enrollment in advanced courses and are available for counseling on concentration of electives, overload courses, and elective course selections and changes.

The Director of Admissions, assisted by his Admissions Officers, is responsible for advising and counseling departing cadets relative to enrollment at other colleges.

The Treasurer, USMA, will, upon request, provide assistance with regard to financial matters.

The Surgeon, USMA, will, upon request, provide counseling or advisory assistance with regard to psychological or psychiatric problems.

RELIGIOUS ACTIVITIES

All cadets are provided a sound basic religious atmosphere. Each cadet must *attend a weekly* chapel service — Protestant, Catholic, or Jewish each Sunday.

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 James D. Ford, B.D., is the Chaplain, USMA, and Dr. John A. Davis, Jr., is Organist and Choirmaster. At the Morning Worship Service the form of worship is interdenominational in character. Among the religious activities in which cadets take part are the Cadet Chapel Choir of 175 voices, the West Point Sunday School of 500 children of the Post taught entirely by 180 cadet teachers, the Cadet Chapel Acolytes, a program of Morning Devotions conducted every weekday at 6:15 A.M., evening discussion groups and annual religious retreats. *Attendance at separate denominational services on Sundays, in lieu of attendance at regular Cadet Chapel service, is permitted after Fourth Class year for denominations which furnish an accredited minister to conduct such services on post. There is no general provision for attendance by cadets at off-post services.*

Catholic. Catholic cadets attend Holy Trinity Chapel, which is the Catholic Chapel on the Post. The Reverend Robert F. McCormick is the Rector and the Reverend Robert T. Kennedy is his assistant. Each Sunday Catholic members of the Cadet Regiments alternate in attending the early and late Masses to give opportunity for assisting at the late Mass. A Cadet Catholic choir sings at the High Masses and other liturgical ceremonies. Cadet commentators, readers, and servers assist at all Cadet Masses. Daily Mass is celebrated at 6:20 A.M. throughout the academic year. Confessions are heard on Friday, daily at Mass time, 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. Cadets teach Sunday School every week to preschool and kindergarten children.





Jewish. Jewish worship services are held in the Old Cadet Chapel every Sunday at 8.30 A.M. during the academic year and at 8:15 A.M. during the summer season. Rabbi Avraham Soltes is the Jewish Chaplain. High Holy Day Services are held for the cadets at Temple Emanuel of Great Neck, L. I., New York. 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 Choir sings the Liturgical music at every service. The Jewish cadets also participate in the reading of the Liturgy and in the Torah service. Religious instruction for Post children of the Jewish faith is conducted by cadets on Sunday morning.

Exceptions. In a bona fide case where attendance at religious services is in conflict with a cadet's sincerely-held convictions, he may request in writing that he be excused from attendance at Chapel. In cases approved by the Superintendent, cadets concerned will attend on Sunday, in lieu of Chapel, a period of discussion concerning the religious background and beliefs of the United States soldier and the impact his religious needs have on the responsibility of command.

CADET ACTIVITIES

A West Point cadet is one of the busiest college students in the nation. Yet, despite a tight schedule including studies, classes, parades, and other military functions, he manages to take advantage of the numerous extracurricular activities offered at the United States Military Academy.

As a future officer, the cadet must be a many-faceted individual. To cope with the complexity of modern warfare and the requirements inherent in leadership, cadets will need to acquire confidence and a working knowledge in a variety of fields. Extracurricular and recreational activities, in conjunction with the Military Academy's academic and military requirements, help give cadets the varied interest, knowledge, and experience in working with others needed for their future careers.

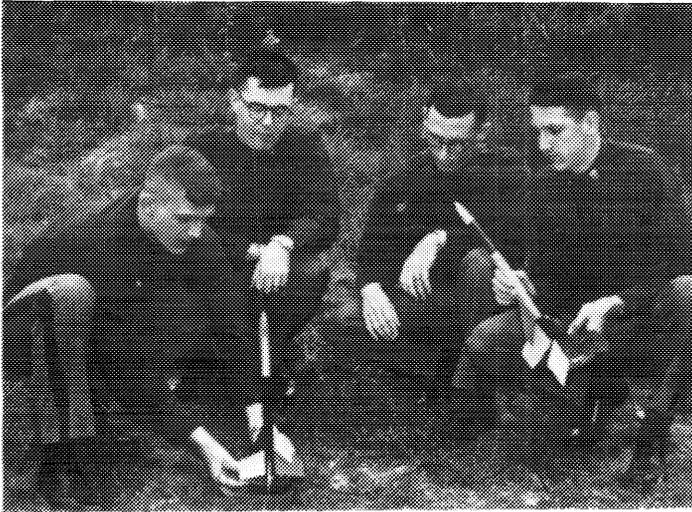
During the summer, facilities are provided for swimming and picnicking at Delafield Pond and Camp Buckner, and picnicking at Constitution Island. Picturesque Flirtation Walk winds for three-quarters of a mile along the majestic Hudson, offering a peaceful and shady retreat from the walls of the barracks. Cadets of the Third Class undergoing their military training at Camp Buckner during the summer months enjoy swimming, canoeing, fishing, skeet and trap shooting, water skiing and sailing. In the fall, the Corps takes one or more football trips to metropolitan areas. During the winter months, ice skating at Smith Rink and skiing at the Victor Constant Ski Slope are extremely popular. The snow-making capabilities, ski lifts, and ski trails are probably among the finest found on any campus in America. In addition, night skiing on the main slopes is available on the Military Reservation. Throughout the academic year, frequent hops (dances) are held in the Gymnasium and Cullum Hall, and movies are shown in the various theaters. Prominent entertainers are frequently brought to the Academy for performances. Construction has begun on the Cadet Activities Building which will be completed in 1974. The Activities Building will provide an auditorium with a 4,500 seating capacity, a large ball room, a Hostess Office, a games area, and a snack bar.

In addition to the general recreational, entertainment and social activities, there are numerous organized and active extracurricular activities.



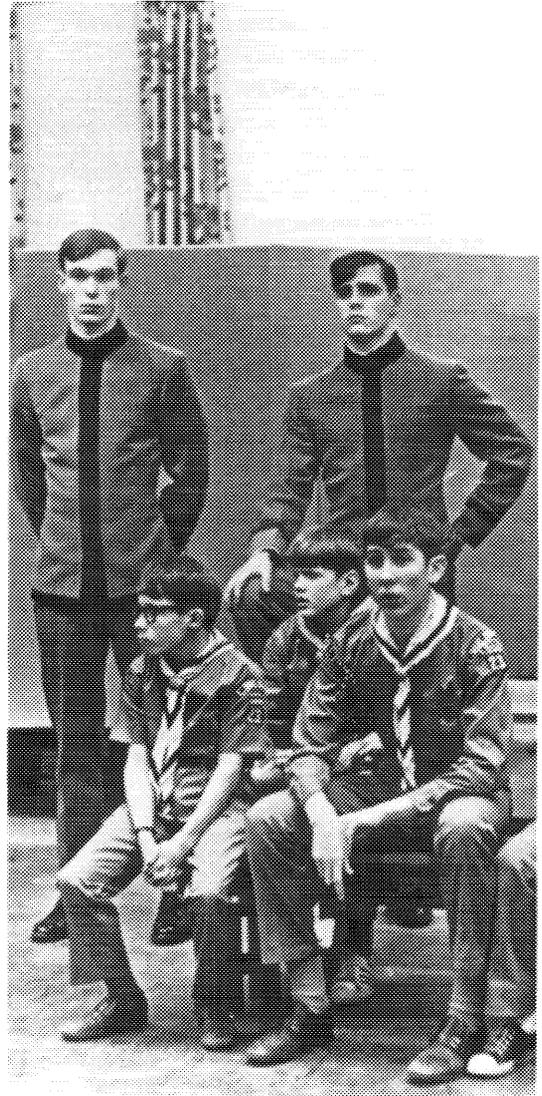
ACADEMIC GROUP

Amateur Radio Club
Astronomy Club
Audio Club
Behavioral Science Club
Chinese Language Club
Computer Forum
Debate Council and Forum
Engineering Forum
Fine Arts Forum
French Language Club
Geology Club
German Language Club
Mathematics Forum
Military Affairs Club
Portuguese Language Club
Rocket Society
Russian Language Club
Spanish Language Club



ACADEMIC SUPPORT GROUP

Cadet Chapel Sunday School Teachers
Cadet Glee Club
Catholic Chapel Sunday School Teachers
Fourth Class Glee Club
Information Detail
Public Relations Council
Scoutmasters' Council











COMPETITIVE ATHLETIC GROUP

- Bowling Club
- Handball Club
- Judo Club
- Karate Club
- Rugby Football Club
- Sailing Club
- SCUBA Diving Club
- Volleyball Club
- Water Polo Club

CORPS SUPPORT GROUP

- Bugle Notes*
- Cadet Band
- Cadet Chapel Choir
- Catholic Chapel Choir
- Dialectic Society
- Hop Bands
- Howitzer Year Book*
- Jewish Chapel Choir
- Pointer Magazine*
- Rabble Rousers (Cheer Leaders)
- Slum and Gravy Magazine*
- WKDT AM/FM Radio Staff

MILITARY SKILLS GROUP

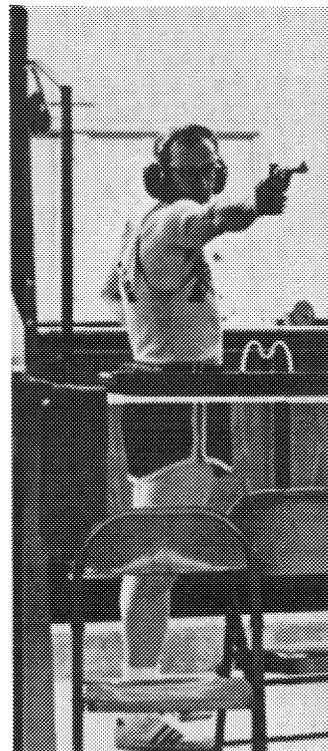
- Mountaineering Club
- Pistol Club
- Riding Club
- Rifle Club
- Skeet and Trap Club
- Sport Parachute Club
- Triathlon Club

RECREATIONAL GROUP

- Chess Club
- Outdoor Sportsman Club
- Ski Club

RELIGIOUS PARTICIPATION GROUP

- Cardinal Newman Forum
- Fellowship of Christian Athletes
- Protestant Discussion Group







The clubs under the Academic Group supplement the academic pursuits of cadets. The largest extra curricular activity at West Point is the Cadet Fine Arts Forum. Through a variety of seminars, cadets have the opportunity to expand their interests and academic studies in areas such as archeology, ballet, theater, photography, sculpture and painting. In addition, the Forum sponsors at the Academy many cultural projects to include art exhibitions, classic films, displays, concerts and performances by well-known personalities. Another large and active club is the West Point Debate Council and Forum. Through participation, the future officer gets practice in public speaking and in the art of persuasion. The Student Conference of United States Affairs (SCUSA) held at the Military Academy brings together students and leaders from throughout the United States. The Cadet Band, known to the Corps as the "Rally Band," and a variety of hop combos are popular among those cadets who play musical instruments. For the singers, there are the nationally-famous Cadet Glee Club, the Chapel choirs and the Fourth Class Glee Club. Members of the Cadet Public Relations Council represent the Academy before various civic groups around the country. The Information Detail prepares news items for newspapers, radio and television stations. Cadets teach Sunday School for children of military personnel living at West Point. The Scoutmasters Council annually hosts a Camporee which draws over 3,000 Boy Scouts to West Point.

Literary experience is another aspect of cadet extracurricular activities. Cadets publish their own yearbook, the *Howitzer*; their own monthly magazine, *The Pointer*; a small handbook called *Bugle Notes* to acquaint Fourth Classmen (Freshman) with customs, traditions, and history of the Military Academy; and *Slum and Gravy*, a monthly sports publication covering all of the Varsity, Intramural, and Club sports. WKDT, the Cadet AM/FM radio station, is fully equipped for voice broadcasting.



The Dialectic Society provides musical and acting outlets for cadets. Highlighting its annual activities is the time-honored "100th Night Show," presented, as the name implies, 100 nights before graduation of the First Classmen. The show is written, produced, and directed by the Cadets, who also provide all the actors.

Student government activities include the Class Committees, Ring and Crest Committee, and the Hop Committees in each class.

Organized extracurricular activities are directed and administered almost entirely by the cadets, subject to the approval of the Commandant of Cadets. There is a volunteer Officer-in-Charge of each activity, who acts in an advisory capacity in addition to his other duties. Participation in these activities provides cadets an opportunity to acquire a wealth of knowledge and to develop leadership and administrative talents which subsequently will serve them well 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 all are normally open on weekends and holidays throughout the year. The Cadet Activities Officer, a member of the Commandant of Cadets Staff, in conjunction with the Cadet Hostess, helps plan the social and recreational programs for the Corps of Cadets. The Cadet Hostess also assists Cadets in obtaining accommodations for their guests during the year.

THE CADET PUBLIC RELATIONS COUNCIL

The Cadet Public Relations Council sponsors cadet public appearances (at secondary schools and civic organizations) in conjunction with cadet leave periods. Cadet volunteers talk with students and counselors about admission to, and life at, West Point; they make extensive use of films, slides and other visual aids in their talks and have been widely praised for their professional manner and their ability to relate to secondary school students.

During AY 70-71 cadets made appearances in 2400 high schools and spoke to nearly 500 civic organizations. Cadets also participated in 100 radio and television programs and, in all, reached an audience of more than 5 million people in 301 Congressional Districts of the United States.

Periods of major activity for the 1971-72 academic year are as follows:

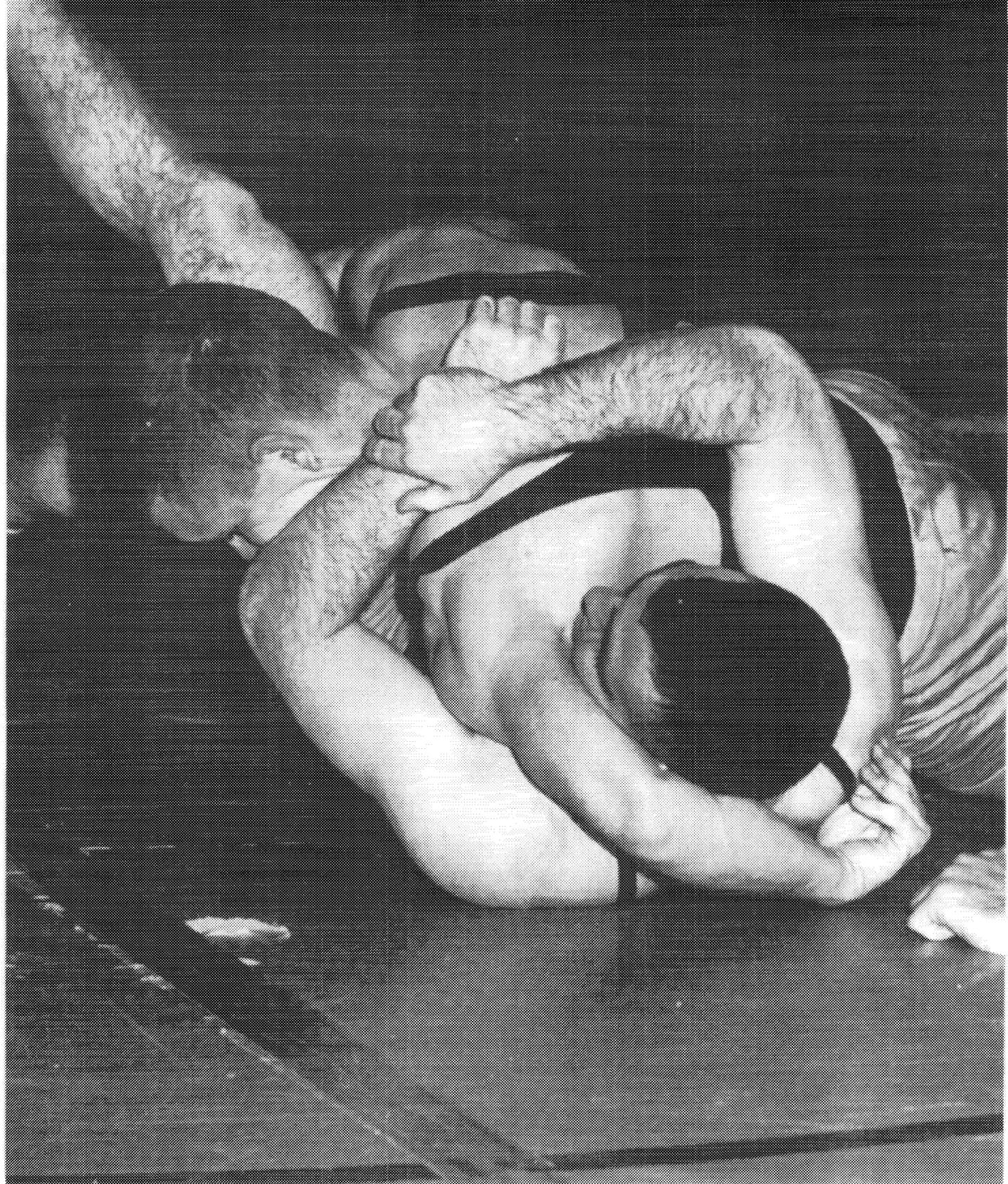
Thanksgiving Week	23, 24 November 71
Christmas Leave	20, 21 December 71 and 4, 5 January 72
Spring Leave	28, 29 March 72 and 4, 5 April 72
June Week	June 72 (CI '73 only)

Each cadet is required to make two presentations for each day that he is absent from USMA on the above-listed dates.

The council also sponsors visits by cadets to a limited number of special events throughout the school year when those events do not conflict with academic or training requirements and when they demonstrate conclusive admissions support benefit. No trips may be scheduled during the periods 6-22 January 1972 and 8 May — 1 June 1972 due to term-end examinations.

Requests for cadet speakers either for a regular program or for a special event must be addressed to Officer in Charge, Cadet Public Relations Council, Admissions, USMA, West Point, New York 10996 (phone 914-938-5117) and must arrive not later than 30 days prior to the proposed engagement.





INTERCOLLEGIATE ATHLETICS



Athletic Board

BRIGADIER GENERAL JOHN R. JANNARONE, Chairman
BRIGADIER GENERAL SAM S. WALKER
COL CHARLES R. BROSHOUS
COL FRANK J. KOBES
COL A. J. DIELENS, JR. (Secretary)

Director of Athletics

COL A. J. DIELENS, JR., B.S., United States Military Academy; Army War College

Deputy Director of Athletics for Administration and Logistics

LTC R. H. HOISINGTON, B.S., United States Military Academy

Deputy Director of Athletics for Business

MAJ JAMES E. BURNS, B.S., Loyola University of Chicago; M.B.A., University of Alabama

Assistant Director of Athletics

JOHN P. RILEY, B.A., Dartmouth College

Assistant Director of Athletics

JOHN E. RYAN, JR., B.S., M.A., The Ohio State University

Administrative Officer

CPT JAMES H. FLOWERS, B.S., Trinity University

Assistant Director for Admissions Support

MR. GEORGE STORCK, B.S., United States Military Academy
CPT ROBERT M. THOMPSON (Assistant), B.S., United States Military Academy

COACHING STAFF

Baseball and 150 lb. Football

ERIC TIPTON, B.A., Duke University

Basketball

DAN DOUGHERTY (Head Coach), B.S., St. Joseph's; M.A., Villanova

Cross Country and Track

CARLETON CROWELL, Ph.D., University of Wisconsin

Fencing

JOHN GERACI, B.S., Newark College of Engineering; M.S., Brooklyn College

Football

THOMAS B. CAHILL (Head Coach), B.S., Niagara University

ROBERT B. GRATZ, B.S., University of Tennessee

JACK HECKER, B.S., Bowling Green University

FRED KERN, B.S., University of Maryland

RICHARD LYON, B.A., Colgate University; M.S., Springfield College

JOHN MacKOVIC, B.A., Wake Forest; M.Ed., Miami University of Ohio

JOHN McCAULEY, B.S., Boston College; M.Ed., Pittsburgh State College

ROBERT M. MISCHAK, B.S., United States Military Academy

CPT JOHN T. JOHNSON, C Squad (Plebe) Coach, B.S., United States Military Academy

Golf

NICK KARL, B.S., Ohio University

Gymnastics

FRANK A. WELLS, B.S., Panzer College; M.Ed., Rutgers University

Hockey

JOHN P. RILEY, B.A., Dartmouth College

Lacrosse

ALFRED F. PISANO, B.A., Cortland State Teachers College; M.A., Pennsylvania State University

Pistol

SGM LEONARD ROSS

Rifle

SGM A. O'NEILL

Soccer

JOSEPH PALONE, B.S., Cortland State College

Squash and Tennis

RON HOLMBERG, B.A., Tulane University

Swimming

JOHN E. RYAN, JR., B.S., M.A., Ohio State University

Wrestling

LEROY ALITZ, B.S., State College of Iowa; M.A., University of Iowa

Skiing

SGM HOWARD BROSSEAU (Ret.)

Chief Athletic Trainer

EDWARD PILLINGS, B.S., B.Ed., Washington State College; M.A., Columbia University

The Director of Athletics is responsible to the Superintendent for the conduct of the intercollegiate athletic program and the operation of the Army Athletic Association (AAA). The Athletic Board, composed of five senior officers on active duty at West Point, serves as an advisory council to the Superintendent on policies pertaining to intercollegiate athletics. The intercollegiate athletic program is financed by the AAA, which is a self-supporting and nonprofit organization consisting of approximately 14,000 graduates of the Military Academy. No Government funds are appropriated for equipment, maintenance, and operation of the intercollegiate athletic plant.

Army Teams are well known for their great spirit and desire. Nearly half the Corps of Cadets engages in twenty competitive sports: football, 150-pound football, soccer and cross country in the fall; basketball, indoor track, wrestling, skiing, swimming, fencing, gymnastics, hockey, rifle, pistol and squash in the winter; and baseball, lacrosse, track, tennis and golf in the spring.

The Army Football Team is coached by Tom Cahill, who was 1966 Coach of the Year. Each fall, Army plays before capacity crowds against some of the nation's top football teams.

The schedule, which features games with teams from all sections of the country, is capped by the nationally-televised sport spectacular — the Army-Navy Game.

1971 FOOTBALL SCHEDULE

SEPTEMBER

18 STANFORD at West Point

25 GEORGIA TECH at Atlanta

OCTOBER

2 MISSOURI at West Point

9 PENN STATE at University Park

16 AIR FORCE at Air Force Academy, Colo.

23 VIRGINIA at West Point

29 MIAMI at Coral Gables (night)

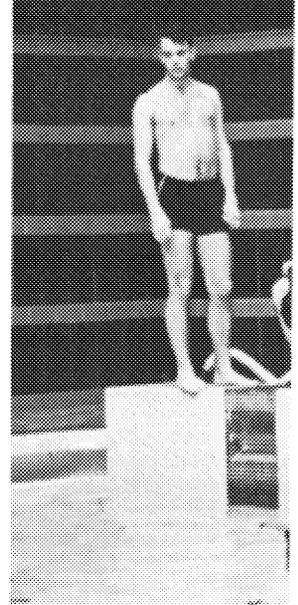
NOVEMBER

6 RUTGERS at West Point

13 PITTSBURGH at West Point

27 NAVY at Philadelphia*

* Army is host team





Many Army Teams and individual cadets have participated in NCAA National Championships. In addition, the Army basketball team has appeared in the National Invitation Tournament in Madison Square Garden six times in the last eight years, reaching the semi-finals on five occasions. In the three seasons from 1968 to 1970, Army led the entire nation in team defense.

Cadets taking part in intercollegiate athletics are recognized as representatives of the Military Academy and the Corps of Cadets and consequently the teams increase the identity every cadets feels with all athletics. Athletic competition is important in the development of a cadet, and every effort is made to provide excellent facilities, equipment and coaches.

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 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," General MacArthur said.

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." Major Pete Dawkins was an Army football captain, Heisman Trophy winner, All-American halfback and Rhodes Scholar. The late Lt. Col. Ed White, the first astronaut to walk in space, was a track star at the Military Academy and fellow astronaut, Col. Frank Borman, also won an Army "A."

THE MUSEUM

Director

MR. RICHARD E. KUEHNE, B.A., Amherst College

Curator of Design

MR. RAY W. MONIZ, B.F.A., Syracuse University

Museum Curators

MR. ROBERT W. FISCH

MR. MICHAEL J. McAFEE, B.A., M.A., Ohio University

Museum Specialist

MR. WALTER J. NOCK, B.A., Fairleigh Dickinson University

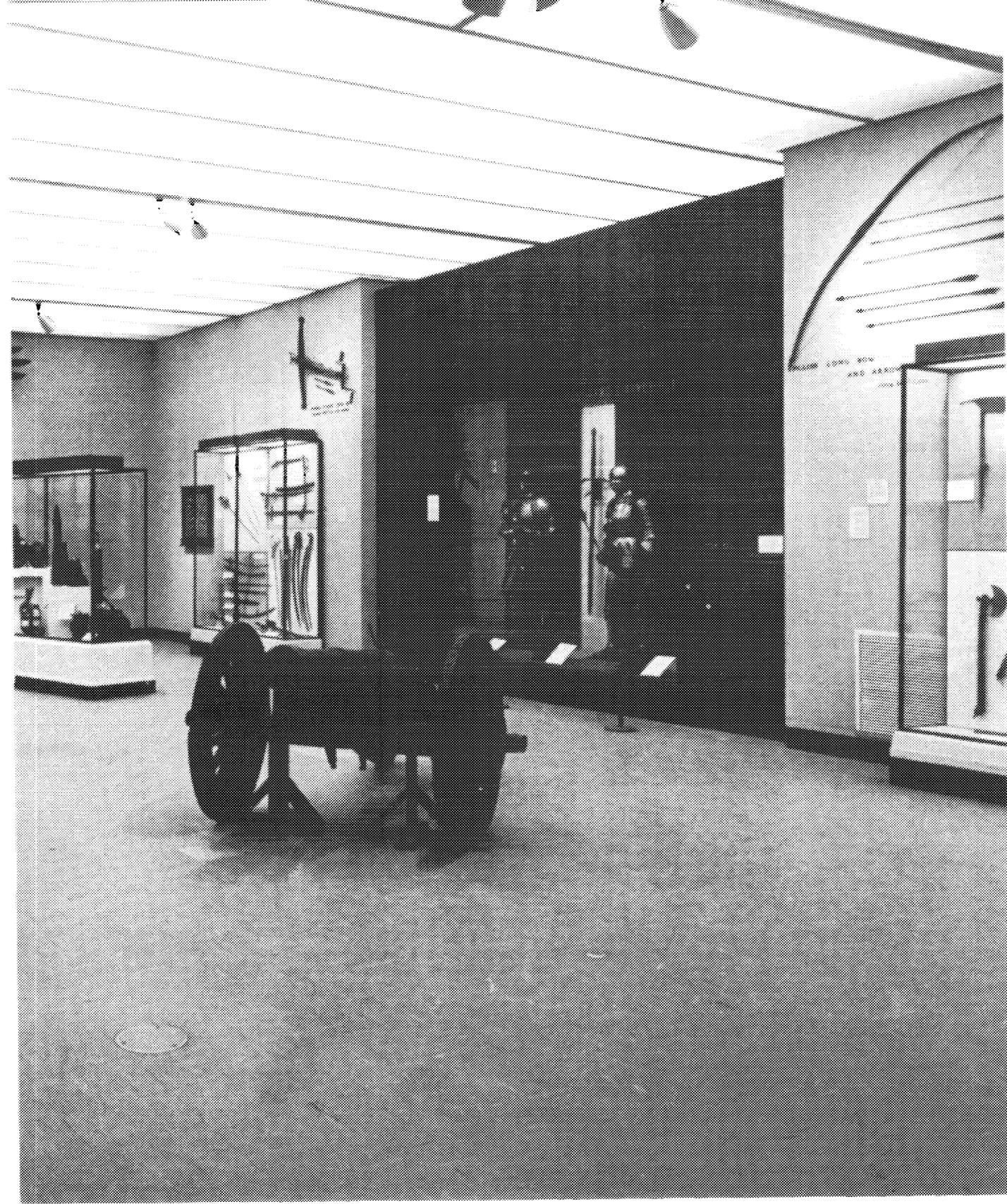
Administrative Assistant

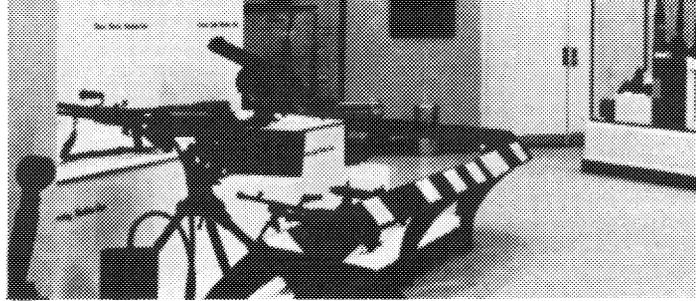
MRS. LEONA P. PATTON



The West Point Museum occupies the first and second floors of the southwest portion of Thayer Hall, one of the main academic buildings. Its galleries and special displays are open without charge to the public daily, from 10:30 a.m. to 4:20 p.m. throughout the year. The Museum is closed only on Christmas and New Year's Day.

Adjacent to the public galleries are storage and research rooms maintained by the Museum to carry out its primary duty of supporting the academic and military education of the cadets. 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. 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; its collections date back to 1777. After the Battle of Saratoga in October 1777, much of the ordnance captured from the British was sent to West Point. Part of the famous Great Chain which stretched across the Hudson at West Point to bar navigation of the river to British men-of-war was also 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 six 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."

West Point authorities realized that permanent provision was needed for the growing collections, and, in 1854, officially created the Ordnance and Artillery Museum, establishing 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 was given independent status. A full-time director was appointed in 1949 and was assigned a professional staff.

The West Point Museum has, perhaps, the largest collection of military items in the Western Hemisphere. Unlike most military museums, the story it tells is not confined to a national one. One gallery is devoted to the development of military instruction and the art of war from the days of the Romans to the present; 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.

The museum contains extensive dioramas and full scale models. The visitor can stand behind a palisade of the days of the Indian Wars in America, or see a portion of a World War I trench. He can view episodes in important battles from Cynoscephalae (197 B.C.), to Gettysburg (1863). In keeping with developments in other American museums, the West Point Museum has endeavored to fulfill its historical mission by portraying intangible cultural concepts and movements as well as tangible realities.

OFFICE OF INSTITUTIONAL RESEARCH

Director of Institutional Research

COL GERALD W. MEDSGER, B.S., United States Military Academy; M.S., California Institute of Technology; M.S., New York University

Deputy Director

LTC FELIX L. LIVEOAK, B.S., United States Military Academy

Chief, Research Division

DR. JOSEPH E. MARRON, M.A., St. Vincent; Ph.D., Fordham University

Chief, Data Support Division

MR. JOHN W. HOUSTON, B.S., St. Lawrence University

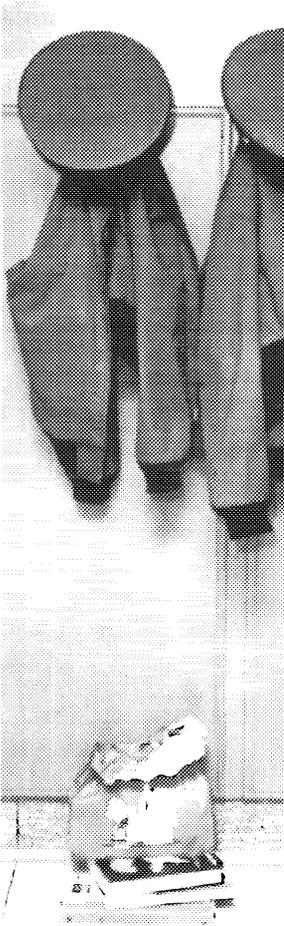
Researchers

MR. CLAUDE F. BRIDGES, B.S., M.A., University of Florida

DR. RICHARD P. BUTLER, B.A., King's College; M.A., Xavier College; Ph.D., University of Tennessee

In its broadest sense, institutional research includes all studies involving the internal operations of USMA. The Office of Institutional Research, a part of the USMA special staff, is charged with the responsibility to conduct research projects for the Superintendent and to support other institutional research conducted by agencies of the United States Military Academy. Of great importance to the Office is a program of long range theoretical and applied studies related to the selection and performance of cadets and follow-up studies of graduates. The program includes an appraisal of the new cadets admitted each year in terms of their values, interests and motivation. In addition, the impact of the United States Military Academy activities and programs on cadet characteristics and behavior is also assessed with particular emphasis on changes in opinions, attitudes and interests over the four-year period. The Office also conducts smaller applied research studies into appropriate areas of inquiry in order to answer specific questions.

The Office of Institutional Research provides certain services to officers, cadets, and other personnel. These include maintaining a central library of institutional research accomplished at the United States Military Academy, and acting as a clearing house for institutional research information. The Office is charged also with maintaining a central file of information regarding candidates, cadets and graduates; and with providing technical assistance to individual researchers at USMA.



ADMISSIONS

Director of Admissions and Registrar

COL MANLEY E. ROGERS, B.S., United States Military Academy; M.S.C.E., California Institute of Technology

Deputy Director of Admissions

MR. JOHN I. WOODRUFF

Associate Director for Admissions

LTC CHARLES WATKINS, B.S., United States Military Academy; M.S., Georgia Institute of Technology

Admissions Officers

LTC CORNELL McCULLOM, B.S., United States Military Academy; M.S., University of Utah
MAJ THOMAS K. MERCER, B.S., United States Military Academy; M.Ed., University of Illinois
MAJ DAVID E. ROESLER, B.S., United States Military Academy
CPT GEORGE B. BROCK, B.S., United States Military Academy; M.A., University of Maryland
CPT FREDERICK ERNST, B.S., United States Military Academy; M.S., Stanford University; M.S., Stanford University
CPT ARTHUR C. HESTER, B.S., United States Military Academy; M.A., Stanford University
CPT FRANKLIN P. LAMBERT, B.S., United States Military Academy; M.Ed., University of Illinois
CPT GEOFFREY R. LOUIS, B.S., United States Military Academy; M.A., Ohio State University
CPT RONALD L. WALTER, B.S., United States Military Academy; M.A., University of Illinois
CPT MICHAEL WIKAN, B.S., United States Military Academy; M.A., University of Michigan

Associate Director for Candidate Advisory Services

LTC WILLIAM K. SCHRAGE, JR., B.S., United States Military Academy; M.A., Columbia University

Associate Director for Data Processing

MAJ JOHN C. WINKLER, B.S., United States Military Academy; M.B.A., University of Georgia

Assistant Director of Admissions for Field Support Programs

MAJ ROBERT B. TURNBULL, (Ret.), B.S., United States Military Academy

Reserve Affairs Advisor

LTC HAROLD G. BEAL, JR., B.A., Fordham College; M.A., Columbia University

Admissions Publications and Public Relations

MR. KENNETH M. PETRACK, B.A., Duquesne University; M.A., Duquesne University
2LT PAUL A. DAVIS, B.F.A., University of Kansas; M.F.A., University of Kansas

Cadet Public Relations Council Programs

MAJ ROBERT F. BROYLES, B.S., Florida Southern College; M.Ed., University of Florida
CPT JOSEPH W. SPENCER, B.S.E., Henderson State College

Candidate Testing Coordinator

MR. JAMES L. GAINES

ADMISSIONS PROCEDURE GUIDE

All prospective candidates should read the admissions material carefully. The following is provided as a guide to assist prospective candidates.

1. Check the eligibility requirements cited below to see if you can qualify.



2. Study the nominating categories and determine which categories apply to you. Using the appropriate format (see sample formats below), apply for a nomination under each category in which you are eligible.
3. If you are at least a high school junior, request and complete a Prospective Candidate Questionnaire (USMA Form 21-1). Forward it to the West Point Admissions Office so that a prospective candidate admissions file may be started on you.
4. Arrange for and complete *either* the American College Testing (ACT) Program test *or* the College Entrance Examination Board (CEEB) tests (SAT, English Composition and Mathematics Achievement), following the procedure outlined in the Academic Qualification section below.
5. Upon receipt of a nomination, arrange for and complete a Qualifying Medical Examination at one of the listed military Medical Examination Facilities (see Appendices).
6. Upon receipt of instructions from the Admissions Office, West Point, proceed to one of the designated West Point Candidate Test Sites (see Appendices) and complete the Physical Aptitude Examination. You may also complete the Qualifying Medical Examination at this test site if you have not already done so.
7. Insure that all forms received from the Military Academy Admissions Office and The Adjutant General, Department of the Army, are completed and returned promptly.
8. After completing all examinations and requirements, await notification of your admission status.
9. In the event that you are not selected for admission, you may request consideration for attendance at the United States Military Academy Preparatory School; write to the Director of Admissions, West Point, New York 10996, prior to 1 May 1972. Yearly, approximately 100 candidates are enlisted into the Army for attendance at the Preparatory School.

ENTRANCE REQUIREMENTS

In order to qualify for admission the candidate must be qualified academically, medically, and in physical aptitude. Additionally, he must meet certain basic requirements specified by public law.

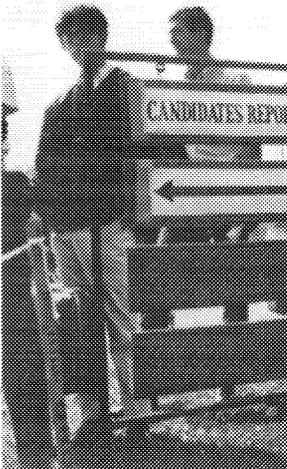
Age: On 1 July of the year he is to be admitted, a candidate must have attained the age of 17 years and must not have reached the age of 22.

Citizenship: A candidate must be a citizen of the United States at the time of enrollment. (Foreign students nominated by mutual agreement between the United States and the countries concerned are exempt from this requirement).

Marital Status: A candidate must never have been married nor may he marry while a cadet.

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

Motivation: Motivation is one of the most important determinants of success and also the most difficult factor to measure. It is normal that some applicants may not be certain whether or not they desire to follow a lifetime career in the Regular Army; however, all nominees should possess the determination and pride of accomplishment necessary to surmount the challenges encountered at the Academy and during the tour of obligated service.



QUALIFICATIONS

Academic Qualification

A candidate's academic qualification is determined by considering the following:

1. His entire scholastic record in secondary school (and college, if appropriate) to determine that he has the aptitude and demonstrated capability to succeed in the demanding curriculum required of all cadets.
2. His performance on either of the following:
 - a. The College Entrance Examination Board (CEEB) tests
Scholastic Aptitude Test
English Composition Achievement Test
Level I or II Mathematics Achievement Test*
 - b. The American College Testing (ACT) Program test
3. Recommendations from the principal, counselors, teachers, and other officials in a position to judge accurately the academic performance and potential of the candidate.

* Scores on either the Level I or Level II Mathematics achievement test will be accepted by the Military Academy. No adjustment is made because of any difference in the degree of difficulty of the two tests.

ACT OR CEEB TESTS

All candidates for admission to West Point must take either the American College Testing (ACT) Program or the College Entrance Examination Board (CEEB) tests.

The ACT is administered at test centers throughout the world. The testing fee is \$6.00, and advance registration of several weeks is required. For information on ACT testing in your locale, consult any high school counselor or write directly to:

Registration Department
American College Testing Program
P.O. Box 414
Iowa City, Iowa 52240

The candidate is responsible to assure that ACT forwards his test results to West Point and to his Congressmen. List the ACT college code number for USMA (2976) on your answer sheet. After taking the test, write to: ACT Program, Records Department, Box 451, Iowa City, Iowa 52240, requesting that the score report be sent to your Congressman — list his title, name and address; list your name, social security number, birth date, date of testing and test center.

American College Testing (ACT) Program Dates for 1971-1972

<i>Test Dates</i>	<i>Registration Opens</i>	<i>Registration Closes</i>
July 17, 1971	April 5, 1971	June 14, 1971
October 16, 1971	August 23, 1971	September 27, 1971
December 11, 1971	October 4, 1971	November 15, 1971
February 26, 1972	November 29, 1971	January 31, 1972

THE FINAL TEST DATE FOR TAKING THE ACT TEST FOR WEST POINT IS FEBRUARY 26, 1972.

All candidates taking the CEEB exams for admission are required to take the SCHOLASTIC APTITUDE TEST, the ENGLISH COMPOSITION and the MATHEMATICS (Level I or Level II) ACHIEVEMENT TESTS of the College Entrance Examination Board.



The College Board has established examination centers throughout the world. To take these tests, you are required to register in advance (preferably 7 weeks) with the College Entrance Examination Board Office. If you desire to take the tests in Montana, Wyoming, Colorado, Oklahoma, Arkansas, Texas and states further west, you should apply to the College Entrance Examination Board, Box 1025, Berkeley, California 94701. To take the examinations in any other state you should apply to the College Entrance Examination Board, Box 592, Princeton, New Jersey 08540. For testing details applicable to your specific needs, consult any local high school counselor. Fees for the tests, payable to the Board are: \$6.50 for the Scholastic Aptitude Test; \$10.50 for the two Achievement Tests. All applications and fees should reach the office of the College Board at least five weeks before the date of the examination. It is the candidate's responsibility to assure that the College Board forwards his test results to West Point and to his Congressman.

The CEEB college code number for West Point is R2924. For reporting scores to your Congressman, list, on the transcript request form, his title, name, and address.

College Entrance Examination Board (CEEB) Dates for 1971-1972

<i>Test Dates</i>	<i>Registration Penalty Date</i>	<i>Registration Closing Date</i>
July 10, 1971	June 9, 1971	June 23, 1971
November 6, 1971	October 6, 1971	October 20, 1971
December 4, 1971	November 3, 1971	November 17, 1971
January 8, 1972	December 8, 1971	December 20, 1971

THE FINAL DATE FOR TAKING THE CEEB TESTS FOR WEST POINT IS JANUARY 8, 1972.

If extenuating circumstances preclude completion of the CEEB test series by the January date, or the ACT by the February date, write Admissions, West Point, New York 10996, explaining the circumstances and stating your plans for completing the testing requirement. Final admission decisions will be made in April 1972 from the data then present in your file.

Physical Aptitude Qualification

Each candidate is required to establish his qualification in Physical Aptitude. Qualification is determined by an examination designed by the Military Academy to measure strength, coordination, muscular power, endurance, speed, and agility. It is given at the West Point Candidate Test Sites in November, January, February and March.

Qualification is determined on the basis of total performance in five or six physical performance tests (see Appendices for test items). A poor performance on a single test will not necessarily result in disqualification.

A candidate previously qualified in physical aptitude (during an earlier testing cycle) is not required to reestablish his qualification during the current year. However, a candidate is advised to retake the test, as a higher score will improve his chances of appointment.

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

The only acceptable substitute for the West Point Physical Aptitude Examination is the Physical Aptitude Examination administered by the U.S. Air Force Academy. *It is the candidate's responsibility to have the results of the Air Force Academy examination forwarded to the Director of Admissions at West Point.*

Medical Qualification

Every candidate, regardless of the type or source of his nomination must undergo a Qualifying Medical Examination during the thirteen months preceding 1 July 1972. This examination may be scheduled by the candidate at one of the authorized medical facilities listed in the Appendices at any time following receipt of his nomination or he may take the examination at the same time he reports for the Physical Aptitude Examination. Regardless of the number of nominations a candidate receives, he need take the medical examination only once. Qualification, or unacceptability, determined by that examination will stand for all nominations held. A general outline of medical considerations is also found in the Appendices.

Procedures

As soon as possible after receipt of his letter of nomination, the candidate is encouraged to make arrangements with the nearest authorized Medical Testing Facility (Army hospital preferred) to take the medical examination. To do this he should contact the hospital Physical Examining Section, in writing, requesting an appointment to take the QUALIFYING MEDICAL EXAMINATION for candidates to the Military Academy. Travel and personal expenses incurred in taking the examination are the responsibility of the candidate. When the examination is completed all forms and records will be sent by the Examining Facility to The Surgeon General, Department of the Army, for evaluation. NOTE: The examining facility does not have the authority to make a qualification determination on any candidate for the Military Academy. Several weeks following the date of examination, the candidate should receive notification of the results from The Adjutant General, Department of the Army.

Evaluation

Final qualification is determined by The Surgeon General, as announced by The Adjutant General. If a candidate is found disqualified due to a non-remediable condition, no further testing as a candidate for the Military Academy will be authorized. If the disqualification is determined remediable, he will be notified by The Adjutant General, Department of the Army, of the corrective measures he must take in order to be re-examined. Minor disqualifying defects are automatically considered for waiver in individuals whose records indicate otherwise outstanding qualifications. Requests for waivers are not required, and candidates should not write regarding possible waiver action since consideration will be automatic for those few granted such waivers. All inquiries pertaining to final medical qualification should be directed to The Adjutant General, Department of the Army, ATTN: AGPB-M, Washington, D.C. 20314.

CANDIDATE TEST DATES

The Qualifying Medical Examination and the Physical Aptitude Examination will be administered on the following dates (see Appendices for Candidate Test Site listing):

21-23 November 1971
9-11 January 1972

13-15 February 1972
12-14 March 1972

Candidates will be informed of their specific test dates and test site by the West Point Admissions Office. Subsequent instructions may be received from the test site West Point Candidate Examining Board President. Additional test dates may be scheduled, if needed.

**EXCHANGE OF MEDICAL EXAMINATION RESULTS
AMONG THE MILITARY SERVICES**

The medical examinations for West Point, the Naval Academy and the Air Force Academy are the same, although the standards differ somewhat due to the commissioning requirements of the services. The Army will provide medical examination results to the Navy or the Air Force if a candidate for appointment to West Point also becomes a candidate for appointment to the Naval Academy or the Air Force Academy. The records will be sent at the request of either the candidate or his Congressional sponsor. Should a candidate for the Naval Academy or the Air Force Academy desire to have his records considered under a West Point nomination, it is his responsibility to request that the Navy or the Air Force send his records to The Surgeon General, Department of the Army. The addresses of the reviewing offices of the three services are:

- For the Army: The Surgeon General
 Department of the Army
 ATTN: MEDPS-SP
 Washington, D.C. 20314
- For the Navy: The Board of Medical Examiners
 U.S. Naval Academy
 Annapolis, Maryland 21400
- For the Air Force: The Director of Physical Standards
 U.S. Air Force Academy, Colorado 80840

CADETSHIPS AND NOMINATIONS

Each cadetship at the Military Academy is allocated by law to the Vice President, a specified Member of Congress, the Governor or Commissioner of a U.S. Territory, The Mayor of Washington, D.C., or the Secretary of the Army. When a cadetship becomes vacant due to graduation or other causes, the nominating authority nominates individuals to fill the vacancy. The congressional authority to whom a vacancy is allocated transmits to the Department of the Army the names of up to ten young men to fill the vacancy and indicates the method to be used in selecting the candidate to the cadetship.

CONGRESSIONAL CADETSHIPS

Vice-President	5
100 Senators (5 each)	500
435 Representatives (5 each)	2175
Mayor of The District of Columbia	5
Canal Zone Governor	1
Puerto Rico Resident Commissioner/Governor	6
Guam, Virgin Islands, American Samoa Governors	1
Total	2693





CONGRESSIONAL NOMINATIONS

The Vice President nominates from the United States at large. United States Senators and Representatives-at-Large nominate from their respective states at large. U.S. Representatives, other than those elected at large, nominate from their districts. The Mayor of the District of Columbia nominates from among the residents of the District. The Governor of the Canal Zone nominates from among the sons of civilians residing in the Canal Zone and from among the sons of civilian personnel of the U.S. Government and the Panama Canal Company residing in the Republic of Panama. The Governor of Puerto Rico must nominate a native of Puerto Rico to fill his single cadetship. The Resident Commissioner nominates from among residents domiciled in Puerto Rico to fill the five cadetships allocated to him. The Governors of Guam, of the Virgin Islands and of American Samoa nominate from among the sons of U.S. citizens or nationals residing on their respective Islands.

As most Congressional authorities conduct interviews and tests before selecting their nominees, it is important that a young man interested in entering the Military Academy apply for consideration to his authorized nominating sources at least one year prior to the time he expects to enter the Academy (July).

Congressional nominating authorities specify to the Department of the Army the method to be used in making the final selection of the candidate to fill the vacant cadetship. The most common methods are described below.

CONGRESSIONAL COMPETITOR: In this method the Member of Congress submits his slate of nominees as competitors. The Academy evaluates all nominees competing for the vacancy and rank orders them. The best qualified candidate is then selected to fill the vacancy.

PRINCIPAL WITH COMPETING ALTERNATES: In this method the Member of Congress designates a principal nominee and, should the principal be disqualified, allows his alternates to compete for the vacancy.

PRINCIPAL-ALTERNATE: In this method the Member of Congress designates a Principal and nine Alternates. The Academy must first evaluate the principal nominee, and, if fully qualified, he is accepted to fill the vacancy. If the principal nominee is disqualified, each alternate, in designated succession, is evaluated until one is found fully qualified.

HOW TO APPLY FOR A CONGRESSIONAL NOMINATION

As a minimum, you should apply to your two United States Senators and your Representative in Congress, using the following format.

This format is intended as a guide. A separate letter must be sent to each Senator and Representative to whom you apply.

FORMAT

Request for Congressional Nomination

Date _____

Honorable _____

Honorable _____

House of Representatives

OR

United States Senate

Washington, D.C. 20515

Washington, D.C. 20510

Dear Mr. _____

Dear Senator _____

I desire to attend the United States Military Academy and to be commissioned in the Regular Army. I respectfully request that I be considered as one of your nominees for the class entering West Point in July 1972.

The following data are furnished for your information:

Name: _____

Permanent Address: _____

Telephone Number: _____

Temporary Address and telephone number
(if different from preceding): _____

Date of Birth: _____

High School: _____

Social Security Number: _____

Names of Parents: _____

I have/have not requested that a prospective candidate file be initiated for me at the West Point Admissions Office.

Sincerely,



MILITARY SERVICE CONNECTED NOMINATIONS

Presidential

The Presidential category is reserved by law for the sons of career military personnel of the Army, Navy, Air Force, Marine Corps and Coast Guard, whether active, retired or deceased.

The term *career* includes members of the Reserve Components currently serving eight years or more of continuous active duty (other than active duty for training) and retirees receiving either retired or retainer pay. Note: Sons of Reservists retired while *not* on active duty are ineligible. These nominations are administered in Headquarters, Department of the Army. Interested young men should make application by letter to The Adjutant General, ATTN: AGPB-M, Department of the Army, Washington, D.C. 20314, no later than 15 December.

An adopted son is eligible if he was adopted prior to his 15th birthday: a copy of the order of court decreeing adoption, duly certified by the clerk of the court, must accompany the application.

Regular Army

Nomination of candidates to fill the annual vacancies held for members of the Regular Army is outlined in AR 351-12. This publication may be obtained from the nearest Army installation; by writing to Headquarters, Department of the Army, ATTN: AGPB-M, Washington, D.C. 20314; or by writing to Admissions, West Point, N. Y. 10996. All Regular Army nominees are required to attend the USMA Preparatory School at Fort Belvoir, Virginia, during the year prior to entering the Military Academy.

Army Reserve/National Guard

Nominations to fill the annual vacancies held for members of the Reserve and National Guard are outlined in AR 351-12. This publication may be obtained from the nearest Army installation; by writing to Headquarters, Department of the Army, ATTN: AGPB-M, Washington, D.C. 20314; or by writing to Admissions, West Point, N. Y. 10996.

Sons of Deceased and Disabled Veterans

Cadetships are provided for the sons of deceased Armed Forces personnel who were killed in action, or died of wounds or injuries received, or disease aggravated by active service; or have a service-connected disability rated at not less than 100 per cent resulting from wounds or injuries received or diseases contracted in active service, or pre-existing injury or disease aggravated by active service. The Veterans Administration determines eligibility and its decisions are final and binding on the Department of the Army. Application should be made by letter addressed to The Adjutant General, ATTN: AGPB-M, Headquarters, Department of the Army, Washington, D.C. 20314. Application must be made prior to 15 December. The letter of application 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 or details of disability, as appropriate. The claim number assigned to the veteran parent's case by the Veterans Administration must also be furnished.

Honor Military/Honor Naval Schools and Army ROTC

Cadetships are provided annually for graduates of Honor Military and Honor Naval schools. Each such school, designated as an honor school by annual Department of the Army or Department of the Navy inspections, is invited to nominate three candidates annually from among its honor graduates. The cadetships will be filled by selecting the best qualified candidates regardless of the school from which nominated. The candidates need not be members of the graduating class of the current year, but in each instance the head of the school must certify that the candidate (1) has been a member of the ROTC units at least two years; (2) has been, or is to be graduated within the upper third of his class; (3) has demonstrated that in his academic, extracurricular, and ROTC activities he possesses outstanding qualities of leadership, character and aptitude for the Military Service; (4) has met all other requirements of law and regulations prescribed for admission to the Military Academy. Honor School nominations must be received by The Adjutant General, ATTN: AGPB-M, Headquarters, Department of the Army, Washington, D.C. 20314, before 15 December.

Army ROTC

Members of college and high school Army Reserve Officer Training Corps units are eligible for nominations. For details, you should contact your Professor of Military Science or your Senior Army Instructor or write Admissions, West Point, New York 10996.

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 is in the Department of the Army. Application by those eligible should be made by letter to The Adjutant General, ATTN: AGPB-M, Headquarters, Department of the Army, Washington, D.C. 20314. 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. There is no limitation upon this category and all candidates who are found fully qualified will be admitted as cadets.

HOW TO APPLY FOR A SERVICE-CONNECTED NOMINATION

As a minimum you should apply under each military service-connected nomination for which you are eligible using the following format. *This format is intended as a guide.*

FORMAT

Request for Service Connected Nomination

Date _____

The Adjutant General
Department of the Army
ATTN: AGPB-M
Washington, D.C. 20314
Dear Sir:

I request a nomination under the category for the class entering the United States Military Academy in July 1972 and submit the following data:

Name of Applicant: _____

Address: _____

Telephone Number: _____

Date of Birth: _____

Social Security Number: _____

Name of Parent: _____

Military Rank of Parent: _____

Service Number of Parent: _____

Component and Branch of Service of Parent: _____

Parent Retired or Deceased: (furnish date and copy of retirement order or casualty report)

(Include a brief statement concerning the date, place and cause of death or the details of disability together with the claim number assigned to the veteran parent's case by the Veterans Administration [if appropriate].)

(Include a brief statement of the date and circumstances of the award of the Medal of Honor [if appropriate].)

Sincerely,

(Enlisted applicants are referred to AR 351-12 dated 10 June 1969.)



MILITARY SERVICE CONNECTED CADETSHIPS

The Secretary of the Army's annual allocation of cadetships is distributed to the following specific categories:

Presidential	100
Enlisted Members of the Regular Army	85
Enlisted Members of the Army Reserve/National Guard	85
Sons of Deceased and Disabled Veterans	approximately 10
Honor Military, Naval Schools and ROTC	20
Sons of Persons Awarded the Medal of Honor	Unlimited

Appointments to vacancies within each of the Army categories are awarded to the best qualified candidates within each category on a competitive basis. A detailed discussion of the competitive nomination categories follows.

ALLIED CADETS

Young men from the allied countries listed below may be designated by their governments to take the entrance examinations and, if qualified, be authorized to receive instruction at the Military Academy. Requirements for the admission, advancement from class to class, and graduation of allied cadets are the same as those for cadets of the United States. While a cadet, they receive the same pay and allowances as cadets appointed from the United States. They are not entitled, however, by reason of their graduation, to appointment in the Armed Forces of the United States.

Republic of the Philippines. One Philippine National, from among those designated by the President of the Republic of the Philippines, selected on the basis of his academic record and College Board test scores, is authorized to enter with the new class each July.

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. Selection will be determined in the same manner as for nominees from the Republic of the Philippines. Not more than three persons from any one country may be cadets at the same time.

NOTIFICATION

The results of the individual's Medical Examination will be forwarded to the nominating authority and to the candidate by The Adjutant General as soon as The Surgeon General, US Army, completes the evaluation.

Early Decision: At least 200 fully qualified outstanding candidates will receive an offer of admission beginning 15 October. This notification is made without regard to type nomination. Candidates who desire an early decision should inform the Admissions Office in writing and should complete all testing by 4 December.

Qualified principal nominees and other outstanding candidates will be offered admission as their records become complete.

All other qualification determinations will be dispatched beginning 1 April.

Since some selected candidates will decline their offer of admission, additional qualified candidates will be selected as required. Thus, a few candidates will not be notified of their selection for admission until shortly before the entry date of 3 July. Offers of admission are conditional from the time of offer to date of admission.

PREPARATION

Academic

A sound secondary-school academic background is essential for a candidate to successfully complete the academic program offered at West Point. The academic pace is rapid and a thorough foundation in secondary-school subjects is assumed.

West Point does not require a specific number of courses or units of study, nor are there cut-off scores on the American College Testing (ACT) exams or the College Entrance Examination Board (CEEB) tests. Above average grades in secondary-school subjects, and on the ACT or CEEB tests, obviously will enhance a candidate's chances for admission.

In order to prepare adequately for the required ACT or CEEB tests, and to provide the necessary academic foundation for the West Point curriculum, a candidate should complete the following secondary-school courses:

English Four years, emphasizing American and English literature, composition and grammar, oral communication, and reading with reasonable speed and comprehension.

Mathematics Three years, including algebra, plane geometry (and fundamentals of solid geometry) and trigonometry. A fourth year of college preparatory mathematics is recommended.

Foreign Language Two or three years, preferably in one of the foreign languages offered at West Point.

Basic Sciences Standard courses in physics and chemistry, to include laboratory work. Additional courses in the sciences are desirable.

Social Sciences A standard American history course is recommended. Additional American or European history, geography, government, and economics courses are helpful.

Candidates who have successfully completed college level courses, or who have attended college prior to entering West Point, and can demonstrate adequate proficiency may validate similar courses in the Academy curriculum. Following admission, a cadet may qualify for accelerated or additional courses, based upon the requirements of the individual academic departments. Candidates are urged to take the College Entrance Examination Board Advanced Placement Examinations for those courses they desire to validate.

Physical

In order to prepare adequately for the Physical Aptitude Examination and for the physical demands placed upon the cadet, candidates are urged to attain the state of physical conditioning required for participation in a strenuous team sport. Vigorous conditioning exercises, cross country running and swimming are recommended. Emphasis should be placed upon a variety of strenuous activities rather than on one sport. A candidate should be able to swim and should have attained a high state of physical conditioning prior to entering West Point.

Leadership

A candidate should strive to develop the personal traits which mark him as a leader in school and community activities. A young man who is respected by his associates for his contributions to school and community affairs, and can subordinate his personal desires to group goals, has displayed leadership potential. Participation in secondary school extra-curricular activities, both athletic and non-athletic, and the attainment of responsible positions in these activities, provide valuable leadership experience. Candidates should strive to make significant contributions in leadership positions on athletic teams, in club and class activities, and in civic and community activities.

The candidate who must work to provide family financial support has also demonstrated leadership potential. In the West Point admissions procedure this candidate is not penalized because he cannot participate in extracurricular activities.



I. Oath of Allegiance

I,, do solemnly swear that I will support the Constitution of the United States, and bear true allegiance to the National Government; that I will maintain and defend the sovereignty of the United States, paramount to any and all allegiance, sovereignty, or fealty I may owe to any State or country whatsoever; and that I will at all times obey the legal orders of my superior officers, and the Uniform Code of Military Justice.

II. Engagement for Service

I, having been appointed a cadet of the United States Military Academy, do hereby engage, with the consent of my parents or guardian if I am a minor, unless sooner separated from the Academy:

a. To complete the course of instruction at the United States Military Academy.

b. 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 five consecutive years immediately following the date of graduation.

c. If an appointment as provided in IIb above is not tendered, or if permitted to resign my commission in a Regular component of one of the Armed Services prior to the sixth anniversary of my graduation, to accept an appointment as a commissioned officer in a Reserve component of one of the Armed Services and remain therein until such sixth anniversary.

III. Marital Status

I am not married and never have been married.

IV. I have read and understand the following policy applicable to Cadets who are separated prior to graduation:

a. A cadet who enters the United States Military Academy directly from a civilian status assumes a military service obligation of six years (10 USC 651).

b. A cadet who enters the Academy from a civilian status and resigns or is separated prior to the commencement of his Second Class academic year will be discharged from the Army in accordance with current regulations of the Army. A resignation tendered by a Fourth or Third Classman will be accepted when found to be in the best interests of the service.

c. A cadet who enters the Military Academy from the Regular or Reserve Component of any military service and resigns or is separated from the Military Academy prior to the commencement of his Second Class academic year normally will revert to his former status for completion of any prior service obligation. All service as a cadet is counted in computing the unexpired portion of the enlistment or period of obligated service (10 USC 516(b)). However, completion or partial completion of a prior service obligation by a separated cadet who entered from this status in no way exempts him from transfer to a Reserve Component and order to active duty pursuant to 10 USC 4348 (b).

d. With the commencement of the Second Class academic year, a Second or First Classman who resigns or is separated prior to completing the course of instruction, except for physical disqualification, unfitness or unsuitability, normally will be transferred to the Reserve Component in an enlisted status and ordered to active duty for not less than two years (10 USC 4348(b)). When separation occurs as a result of deficiencies which are not considered willful, the active duty provision may be waived.

e. Any First Classman who completes the course of instruction and declines to accept an appointment as a commissioned officer will be transferred to the Reserve Component in an enlisted status and ordered to active duty for four years (10 USC 4348(b)).

f. A cadet who tenders a resignation will be required to state a specific reason for his action. Cadets separated from the Military Academy because of physical disqualification or demonstrated unsuitability or unfitness for military service will be discharged in accordance with criteria established by current Army regulations.

g. In each case where a cadet is separated from the Military Academy, the Director, Selective Service System will be notified of the individual's change in status.



USMA PREPARATORY SCHOOL

The Preparatory School is operated by the U.S. Army at Fort Belvoir, Virginia. Enlisted men on active duty wishing to compete for appointment to the Military Academy may be assigned for intensive academic, physical and military training to prepare them for competitive appointments and their initial year at the Academy. The entrance requirements for the Preparatory School closely parallel those of USMA. All applicants must satisfy minimum academic and medical standards as outlined in AR 351-12 before transfer to the Preparatory School is authorized, and all must either be nominated, or eligible to compete, for admission to the Military Academy. Approved applicants pay no tuition, are members of the service, retain rank held at time of entrance to USMAPS, receive normal military pay and allowances, and are subject to the Uniform Code of Military Justice.

The training course runs from August through May and enrollment at the start of the course is a primary requirement. The academic program includes a comprehensive review of all high school English and mathematics and an introduction to college level instruction in English and mathematics. During the school year a physical training and extensive sports program conditions the student for the West Point Physical Aptitude Examination and for the rigorous life at the Academy. The military program encompasses all of the student's day-to-day activity other than academic instruction by emphasizing training in leadership, discipline, and fundamental military skills.

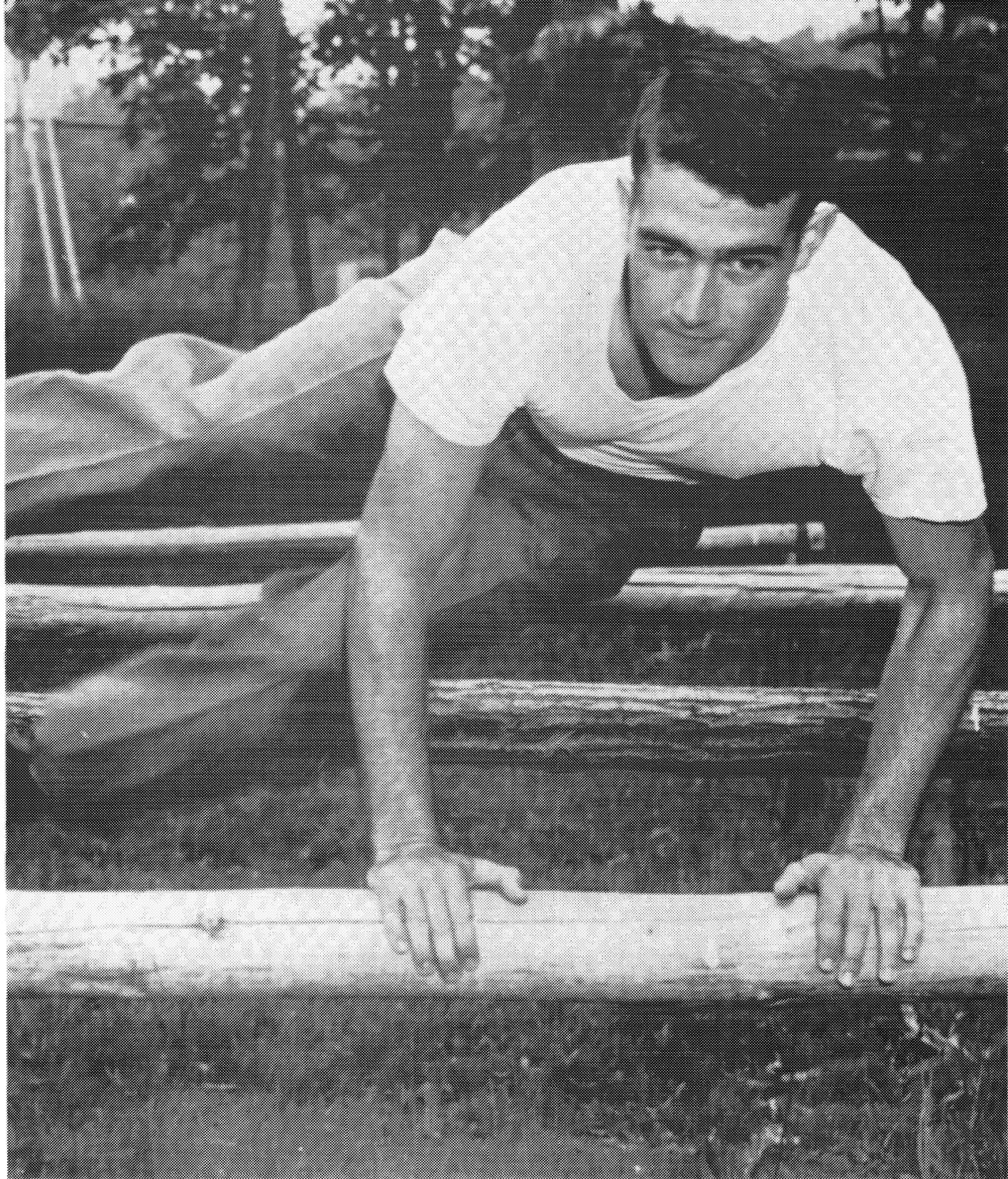
Attendance at USMAPS is mandatory for all applicants competing for Regular Army appointments. Qualified enlisted reservists and others may be selected for attendance at the Preparatory School upon application. Detailed information concerning application, selection and training at USMAPS may be obtained by writing directly to the Commandant, USMAPS, Fort Belvoir, Virginia 22060.

Reserve component personnel not on active duty, interested civilians, and members of other services should write to The Adjutant General, ATTN: AGPB-M, Department of the Army, Washington, D.C. 20314. General information reference the Preparatory School may be secured by forwarding a letter of inquiry to the Commandant, USMAPS.

RESIGNATIONS AND SEPARATIONS

General Policy. A cadet who is separated (separation refers to the voluntary or involuntary disenrollment of a cadet) and who entered the Academy from enlisted status in the Regular or Reserve Component of any service will revert to his former status under the appropriate statutory provisions. However, completion or partial completion of a prior service obligation in no way exempts a separated cadet from acquiring a new active duty obligation through the policy outlined below.

A cadet who is separated and who entered the Academy from a commissioned status may apply for the commission he relinquished upon entry to the Academy.



A cadet who is separated from the Academy because of physical disability or because of demonstrated unsuitability or unfitness for military service will be discharged in accordance with the current Army Regulations.

When a cadet who entered from a civilian status is separated from the Academy, his Selective Service Board will be notified of his change in status.

Specific Policy. Fourth and Third Classmen (freshmen and sophomores): Any Fourth or Third Classman (or a Second Classman [junior] prior to the beginning of the Second Class academic year), except as outlined in the general policy section above, who is separated or whose resignation is accepted will be discharged from the service in accordance with current Army Regulations. The resignation will be accepted when found to be in the best interests of the service.

Second and First Classmen (juniors and seniors): Any Second Classman (with the commencement of the Second Class academic year) or First Classman who is separated prior to commissioning, except for physical disability, unfitness, or unsuitability, will normally be transferred to the Reserve component in an enlisted status and will be ordered to active duty for not less than two years nor more than four years. A cadet who is separated prior to completion of his third academic year will be recommended for two years of enlisted active duty. A cadet who completes his third academic year will be recommended for three years of enlisted active duty. A cadet who completes his fourth academic year and declines acceptance of a commission will be recommended for four years of enlisted active duty. When separation occurs as a result of deficiencies which are not considered willful, the enlisted active duty provisions may be waived.

Inter-Service Transfers of USMA Graduates

Effective with the Class of 1975, all graduates of the United States Military Academy who are physically qualified for commissioning normally will be commissioned in the United States Army. Approval by the Secretary of the Army for a graduate to be commissioned in another service will be granted only under the most unusual circumstances.



SERVICE LIFE

The mission of the United States Military Academy is to develop within each cadet those qualities and attributes essential to his progressive and continued development as a commissioned officer in the Regular Army of the United States, a profession endowed with rich tradition and heritage. Graduation from the United States Military Academy is but the first step in the mental, moral, physical, and professional preparation of this officer.

An officer's military career will include assignments which provide increasingly challenging leadership responsibilities. These assignments will be augmented with post graduate military and civilian schooling. The assignment pattern is designed to prepare him for his role as a senior officer at a level which will make maximum use of the training and experience received throughout his career.

An officer leads, teaches, guides, counsels. He works with men and ideas. He is in a demanding and responsible field which involves advanced technology, sophisticated weapons, and the international implications of many of his decisions. As a result, the officer today must have a higher intellectual capacity and educational level than ever before.

An officer is given major responsibility at a much earlier age than his contemporaries in most comparable civilian careers. A general career plan consists of four major periods covering thirty years of service.

Basic Military Development: This period includes the first eight years of commissioned service. It is during this period that the officer becomes well grounded in the tactics, techniques, and technical requirements of his basic branch. He will receive basic schooling, specialist schooling such as airborne, ranger, or aviation training, serve as a combat arms troop leader, and serve as an instructor. More importantly, the officer gains practical leadership experience in the techniques of commanding troops. The early years are considered critical in an officer's career for it is at this time that he develops the lasting traits, attitudes, standards of performance, and sense of duty which will influence his contribution throughout his entire military career. In addition, there is an opportunity for the officer to seek an advanced degree. Approximately 75-80 per cent of the officers in the recently graduated classes can expect to attend advanced civil schooling, depending on service requirements for specialized skills and education.

Intermediate Professional Development: This period normally includes the ninth through the fifteenth years of service. Troop command, staff assignments, schooling, and a variety of assignments of all levels of command typify this period. Eligible officers may attend the Command and General Staff College, the Armed Forces Staff College, and, if not already attended, graduate civil school. This period is designed to broaden the officer's understanding of the overall role of the United States Army and to further his professional development.

Advanced Development: This period usually includes the sixteenth through the twenty-third years of service. The officer will be performing in high level staff and command positions during these rewarding years. Outstanding officers will be offered the opportunity to attend Senior Services Colleges such as the Army War College, the National War College, The Industrial College of the Armed Forces, or one of the three foreign War Colleges. During this period truly outstanding officers are identified and selected for promotion to the grade of General Officer.

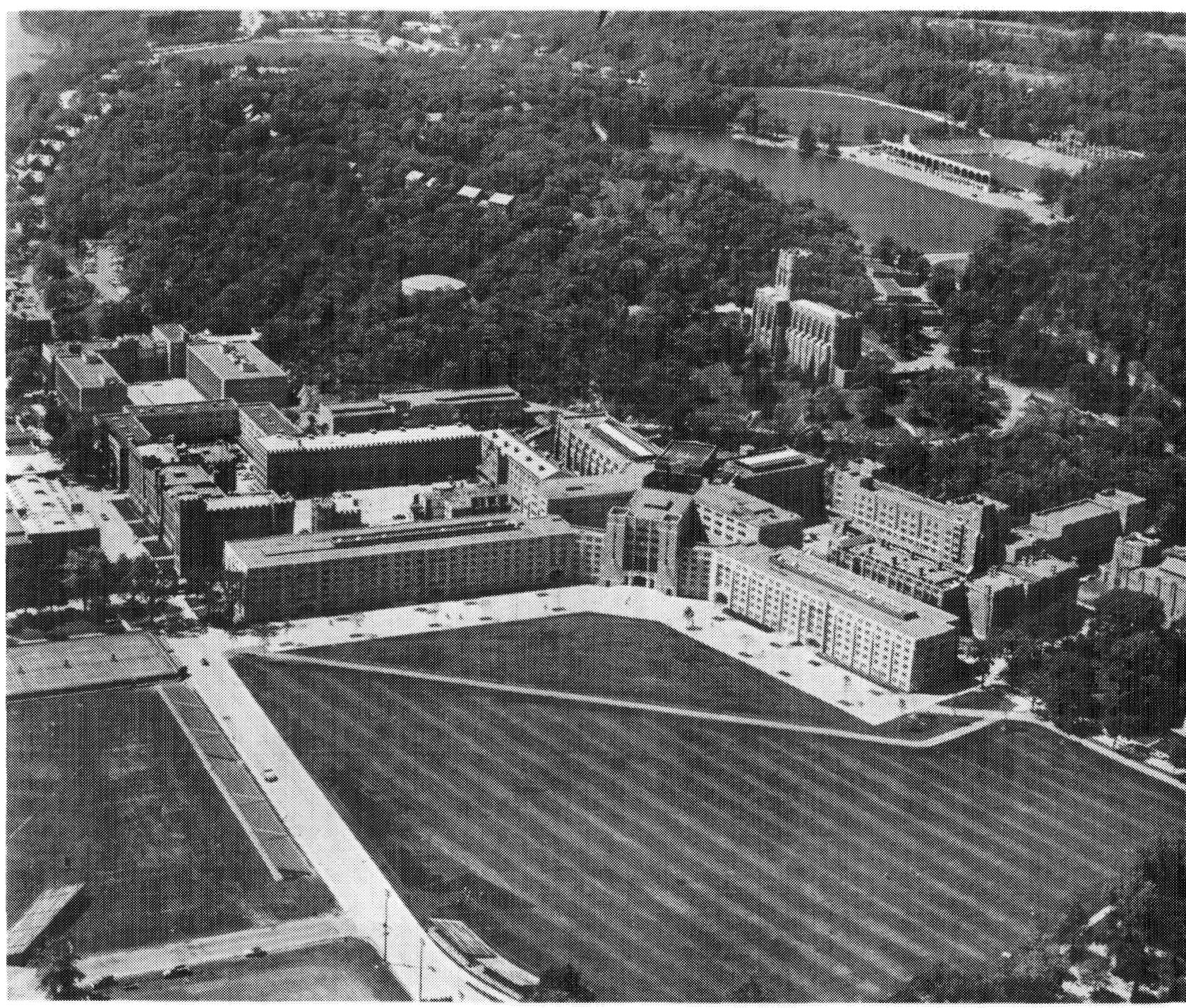
Major Professional Contribution: This period normally includes the twenty-fourth through the thirtieth years of service. It is during this period, when the officer is at the peak of his military career, that the officer makes his major professional contribution. His command and staff positions at this time normally will be of the highest responsibility determined by the officer's experience and ability.

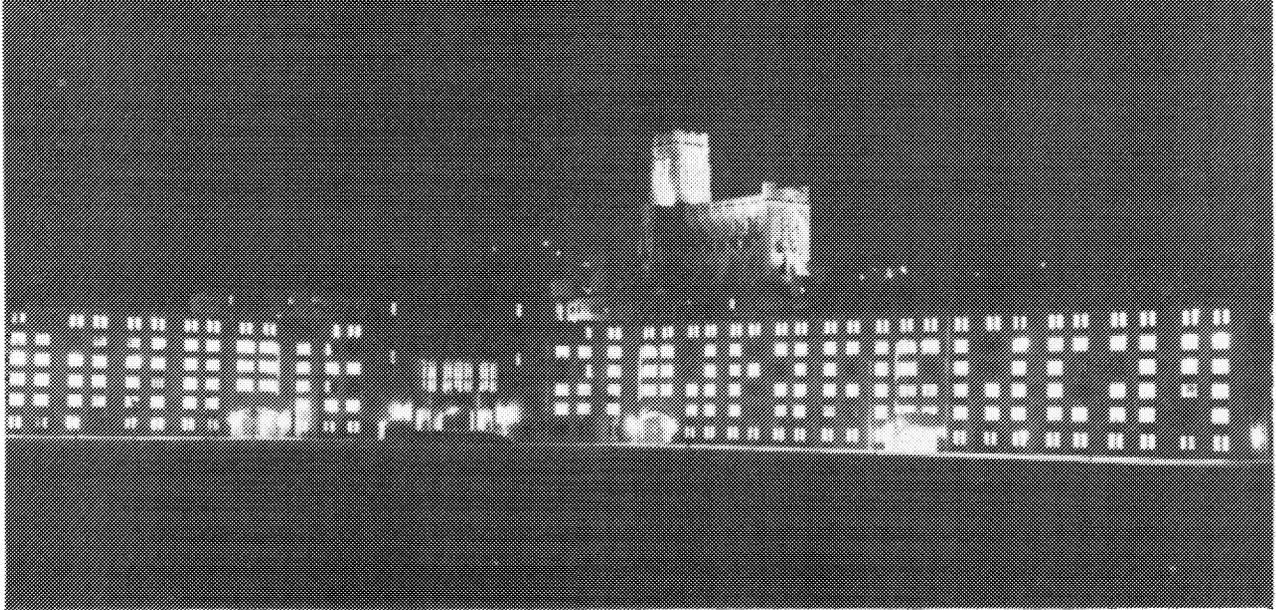
The entire military career is one of challenge, satisfaction, and service to country and fellow man. During periods of national emergency the professional officer provides the leadership for which he has been educated and trained, while in time of peace he is the steward of the nation's preparedness. A life of service extends the officer to the limit of his abilities, provides the opportunity to assume positions of important leadership, and instills a sense of pride in the role the officer plays in the Army's portion of our national defense.



APPENDICES

	Page
Academy Facilities	169
Board of Visitors	171
Association of Graduates	173
West Point Alumni Foundation	176
Physical Aptitude Examination	177
West Point Candidate Test Sites	179
Medical Standards	180
Medical Examination Facilities	186
College Personnel	
Alphabetical Roster	189
West Point Map	206
Index	208





ACADEMY FACILITIES

The United States Military Academy reservation consists of approximately 16,000 acres, located in Orange County, New York, fifty miles north of New York City. The cadet area, framed by the Hudson Highlands, overlooks the Hudson River at its historic West Point. The main cadet complex retains the harmonious blend of Gothic style architecture and the natural beauty of the surrounding hills.

Flanking Washington Hall, the cadet dining hall, is the barracks complex which houses the Corps of Cadets. New barracks under construction will provide additional two man rooms which will be ready for occupancy in the fall of 1971 as the Corps expands to a total strength of over 4400 men. In addition to the cadet dining hall where the entire Corps is assembled for meals three times a day, Washington Hall contains the Cadet Headquarters of the Commandant and his staff, two academic departments, classroom facilities, and other cadet support facilities.

Thayer and Bartlett Halls, adjacent to the cadet barracks complex, contain the remaining academic departments, classrooms and laboratory facilities. Thayer Hall, a completely new structure built within the walls of the old riding hall, encompasses 98 classrooms, a computer center, a television studio, 800 seat and 1500 seat auditoriums, laboratories, the Academy museum and offices for academic departments. A nine story academic building presently under construction will complete the academic facilities required for the increasing number of cadets. When completed in late 1971 this building will house three academic departments and contain 74 classrooms, a 600 seat auditorium, and academic laboratories.

The Cadet Library, containing 300,000 volumes, reading rooms, seminar rooms, microfilm and audio visual facilities, and rare book collections, is located within the barracks-academic complex.

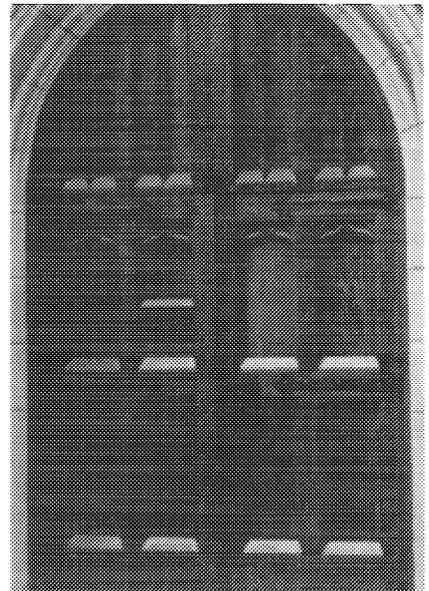
The Administration Building, or Post Headquarters, contains the offices of the Superintendent, the Dean of the Academic Board, and the Director of Admissions and Registrar and is also located adjacent to the barracks-academic complex.

West Point provides cadets with outstanding athletic facilities. The gymnasium building actually houses five gymnasiums and has recently been expanded to provide a new Olympic size swimming pool to complement the existing swimming facilities. In addition to the varsity sport facilities of Michie Stadium for football, Shea Stadium for track, Doubleday Field for baseball, Smith Rink for ice hockey, the Field House for basketball and indoor track, and the new indoor rifle and pistol ranges, numerous athletic fields are located throughout the post. Just as Smith Rink provides a facility for the recreational ice skater and the ice hockey team, the Victor Constant Ski Slope is shared by the intercollegiate, intramural and recreational skier. The golf course is adjacent to the ski area, and multiple tennis courts and outdoor swimming facilities are found throughout the post.

Religious services are held in three separate chapels. The Cadet Chapel (containing the largest church organ in the Western Hemisphere) overlooks the cadet barracks and is used for Protestant services. Catholic services are held in the Chapel of the Most Holy Trinity, a copy of a parish church in County Essex, England. The Old Cadet Chapel at the West Point cemetery entrance is used for Jewish services, Protestant denominational services, and funeral services.

Cadets have numerous clubs and activities for leisure time. Grant Hall, Cullum Hall, the Weapons Room and the First Class Club provide snack bar and lounge facilities for cadets and their guests. The government owned Hotel Thayer provides hotel accommodations for the cadets' friends and families. Additionally, a Cadet Activities Center is now under construction. When completed, this facility will provide a 4500-seat auditorium, a 1000-seat snack bar, a 1000-person multipurpose ballroom, a Cadet Hostess area, and a large reception area for cadet guests.

Each year hundreds of thousands of tourists visit West Point to observe the Corps of Cadets, the historic memorabilia and the natural beauty of the Academy in its Highlands setting. Visitors are urged to begin their tour at the Visitors Information Center near Thayer Gate where informative literature and suggested tour guidance is available.





BOARD OF VISITORS

The Board of Visitors to the United States Military Academy was created not long after the founding of the institution itself. On 1 July 1815, the Secretary of War, William H. Crawford, approved "A Regulation for the Government of the Military Academy" providing for the appointment of a Board to consist of five "competent gentlemen," under the presidency of the Superintendent. The Board was instructed to attend each of the annual and semiannual examinations at West Point and report thereon to the Secretary.

At present the Boards are appointed 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 the institution 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, the Act provides, shall be as follows:

- a. The Chairman of the Committee on Armed Services of the Senate, or his designee
- b. Three other Members of the Senate designated by the Vice President or the President pro tempore of the Senate, 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, or his designee
- 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 designated by the President

BOARD OF VISITORS 1971

From the United States Senate

Honorable HOWARD W. CANNON, Nevada (representing the Chairman,
Senate Armed Services Committee)

Honorable HIRAM L. FONG, Hawaii

Honorable JOSEPH M. MONTOYA, New Mexico

Honorable JAMES B. PEARSON, Kansas

From the United States House of Representatives

Honorable HAROLD RUNNELS, New Mexico (representing the Chairman,
House Armed Services Committee)

Honorable GLENN R. DAVIS, Wisconsin

Honorable W. R. HULL, JR., Missouri

Honorable ALEXANDER PIRNIE, New York

Honorable OLIN E. TEAGUE, Texas¹

Appointed by the President of the United States

Mr. EDWIN D. ETHERINGTON, Old Lyme, Connecticut

Mr. JERRY FINKELSTEIN, Chairman of the Board,
Struthers Wells Corporation, New York

Dr. D. WHITNEY HALLADAY, President, East Texas State University

Major General LEIF J. SVERDRUP, USAR (Ret), Chairman of the Board,
Sverdrup & Parcel & Associates, Inc., St. Louis, Missouri

Mr. LOUIS R. VINCENTI, President, Wesco Financial Corporation,
Pasadena, California

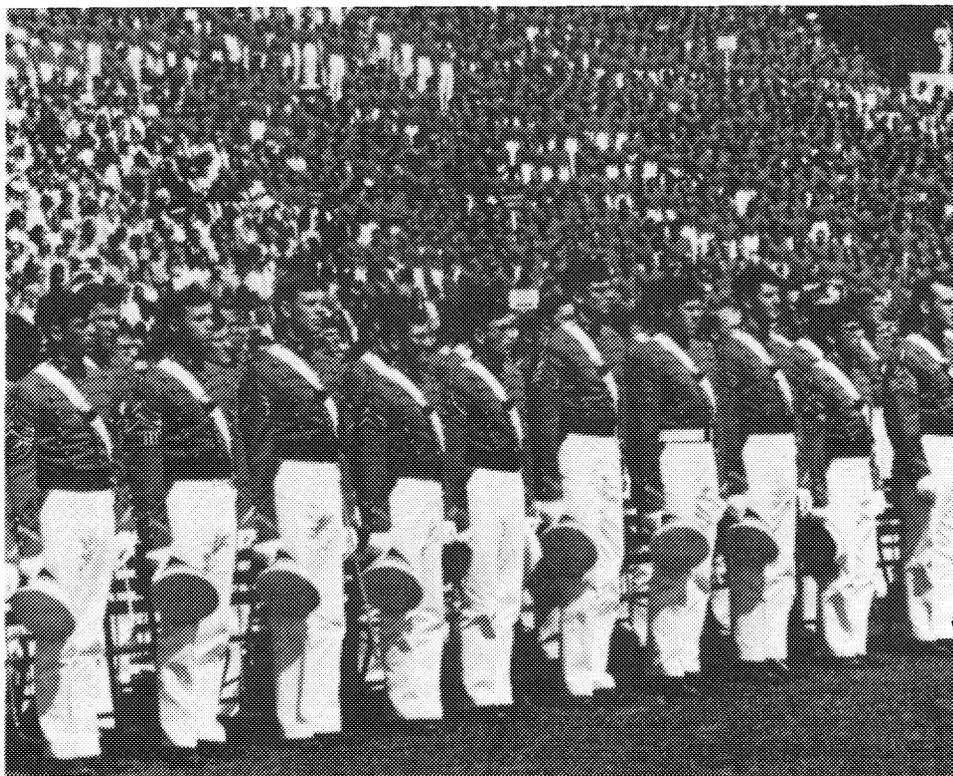
General A. C. WEDEMEYER, USA (Ret), Friends Advice, Boyds, Maryland

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. Over 97 per cent of the 20,986 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 1810, 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. Gifts to the General Fund support operating expenses while those contributions earmarked for the Endowment Fund are deposited to the principal of that fund and remain there for investment purposes. Funds invested by the Endowment Fund work for the Association in perpetuity.

Under the aegis of the Association four 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.

Homecoming Day is celebrated annually in the Fall at one of the home football games. This occasion, which was first established in 1958, has proved quite successful and as it is now the scheduled reunion period for the more junior classes, it affords the alumni a second annual opportunity to visit their Alma Mater and renew old acquaintances. In addition to the football game, there is a Thayer monument ceremony and a review in honor of the alumni by the Corps of Cadets.

Founders Day, 16 March, is celebrated at West Point and at nearly 150 other locations throughout the world. These annual celebrations, supported by the Association of Graduates, 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, Douglas MacArthur in 1962, John J. McCloy in 1963, Robert A. Lovett in 1964, Dr. James B. Conant in 1965, Carl Vinson in 1966, Francis Cardinal Spellman in 1967, Bob Hope in 1968, Dean Rusk in 1969, Ellsworth Bunker in 1970, and Neil A. Armstrong in 1971.

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; assistance in establishment and support 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 each graduate, where he is and what he is doing. The quarterly magazine *Assembly* under the editorial sponsorship of the Association of Graduates 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:

Alabama	(Fort Monmouth)
Alabama (Birmingham)	New Mexico
Fort McClellan	Albuquerque
Mobile	New York
Tennessee Valley (Huntsville)	Capital District (Albany)
Arizona	Ithaca
Phoenix	New York (New York City)
Southern Arizona (Tucson)	Rochester
California	Western New York (Buffalo)
Los Angeles	North Carolina
Monterey Peninsula (Monterey)	Western North Carolina (Asheville)
San Diego	Piedmont
San Francisco Bay Area	North Dakota
Colorado	North Dakota (Bismarck)
Denver	Ohio
Pikes Peak Region (Colorado Springs)	Central Ohio (Columbus)
Connecticut	Cincinnati
Connecticut (Hartford)	Cleveland
District of Columbia	Northwestern Ohio (Van Wert)
District of Columbia	Dayton
Florida	Oklahoma
Canaveral	Central Oklahoma (Oklahoma City)
Central Florida (Orlando)	Eastern Oklahoma (Tulsa)
Florida West Coast (Tampa)	Oregon
North Florida (Jacksonville)	Portland
South Florida (Miami)	Pennsylvania
Georgia	Central Pennsylvania (Harrisburg)
Atlanta	Philadelphia
Savannah	Western Pennsylvania (Pittsburgh)
Columbus (Fort Benning)	Philippine Islands
Hawaii	Philippines (Manila)
Hawaii (Honolulu)	South Carolina
Illinois	Charleston
Central Illinois (Champaign-Urbana)	Columbia
Chicago	Tennessee
Indiana	Tennessee (Nashville)
Indianapolis	Texas
Kentucky	Central Texas (Austin)
Louisville	El Paso Area
Louisiana	Houston
Mid-Gulf (New Orleans)	Midland
Maryland	North Texas (Dallas)
Maryland (Baltimore)	South Texas (Fort Sam Houston)
Massachusetts	Venezuela
New England (Boston)	Venezuela (Caracas)
Michigan	Virginia
Michigan (Detroit)	Hampton Roads (Hampton)
Minnesota	Washington
Minnesota (Minneapolis)	Puget Sound (Seattle)
Missouri	Wisconsin
Kansas City	Wisconsin (Milwaukee)
St. Louis	
New Jersey	
Central New Jersey	

THE WEST POINT ALUMNI FOUNDATION

The West Point Alumni Foundation, Inc., is a nonprofit, tax-exempt educational institution-support organization whose objectives are designed to contribute to the welfare and enrichment of the United States Military Academy and the Corps of Cadets. The Foundation was chartered in the State of Maryland in 1945 and maintains an office at West Point. Its operations are directed by a Board of Managers composed of distinguished alumni.

The Foundation is presently engaged in two principal areas of endeavor in furtherance of its purposes. One of these is the financing and distribution of alumni publications in concert with the Association of Graduates, USMA. The other is the maintenance and employment of the West Point Fund (formerly West Point Superintendent's Fund).

The alumni publications are *Assembly* and the *Register of Graduates and Former Cadets USMA*. *Assembly* is a quarterly magazine containing articles of current interest on developments and events at the Academy, class notes, and memorial articles about deceased graduates. It is edited by the Association of Graduates and contains no advertising. The *Register of Graduates* is an annual publication which lists graduates of the Military Academy by class and order of graduation. It provides a brief resume of their careers as well as pertinent data on current addresses or assignments and other matters of interest relating to individual alumni and their association with the Academy. This book is edited by the Foundation and contains a limited amount of advertising. The costs of both publications are met mainly by subscriptions and advertising revenues collected by the Foundation, and by private donations for such purposes to the Foundation.

The West Point Fund was established by the West Point Alumni Foundation, Inc. in 1961. Its objective is to obtain from private donations, gifts and bequests, the sums needed to undertake projects benefiting the Corps of Cadets and the Military Academy for which appropriated fund support is not available. Since its inception the Fund has made possible a number of additions to programs, equipment and facilities, and other improvements at the Academy, ranging from minor items of equipment and cadet program support to major facilities and activities.

Contributions to the Fund, whether cash or securities, go directly to the West Point Alumni Foundation, Inc., a non-profit organization registered with the Internal Revenue Service, and receive the favorable tax deductibility provided for in Section 170 of the Internal Revenue Code. The Fund does not hold or invest in securities; hence, all such gifts are usually, as a matter of policy, converted to cash assets immediately upon receipt.

Conditional gifts or bequests are accepted only if their provisions are acceptable to the Military Academy. Unrestricted gifts are preferred. Their use is governed by action of a Policy Committee on recommendations of the Superintendent. This Policy Committee is composed of: the President, Association of Graduates; the President, West Point Alumni Foundation, Inc.; the Chairman, West Point Fund Committee; an Adviser to the Fund Committee; a representative of the Chief of Staff, U.S. Army; the President, Post Planning Board; and the Secretary-Treasurer, West Point Alumni Foundation.

Additional information on the Foundation and its activities may be obtained by writing the Secretary-Treasurer, West Point Alumni Foundation, Inc., West Point, N. Y. 10996.

THE 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. Medicine Ball Put. Put a six pound medicine ball for distance using the same movement as required for a shot put.
2. Chinups. From the arm hang position on a horizontal bar, palms toward the face, elevate the body until the chin is above the bar.
3. Pullups. Same as chinups except palms away from the face.
4. Bent Leg Situps. Perform as many situps with legs flexed at the knees as possible in two minutes.
5. Hurdle Run, Zig Zag Run, and Dodge Run. Run through a maze of hurdles on a gymnasium floor for time.
6. Shuttle Run. Run between two lines, 25 yards apart, to cover distances from 100 to 400 yards.
7. Squat Thrust. Continuous movements for 20 seconds from the standing position to the squat, to the leaning rest, to the squat, and back to the standing position.
8. Vertical Jump. Jump for height.
9. Standing Broad Jump. One jump for distance.
10. Three Broad Jumps. Three continuous broad jumps for distance.
11. Rope Climb. Climb a regular gymnasium rope as high as possible in seven seconds using hands and feet or hands alone, starting from a standing position.
12. Instep Touch. From the arm hang position on a horizontal bar, bring the insteps up to touch the bar.
13. Hop, Step and Jump. With a ten foot start to the takeoff line, take a hop, a step, and a jump in a continuous movement for distance.
14. Basketball Throw. Throw a regulation basketball for distance from either a standing or kneeling position.
15. Block Shuttle Run. In a shuttle run, pick up blocks and place them on designated spots.
16. Dips. Raising and lowering oneself on parallel bars with the arms.
17. Pushups. Standard pushups starting from the leaning rest position.

The average scores on a five item Physical Aptitude Examination given to a recently admitted class are listed below:

Pullups	7 ea.
Basketball Throw (from kneeling position)	65 ft.
Hurdle Run	36.8 sec.
Standing Broad Jump	7'6"
300 Yard Shuttle Run	62.2 sec.



Below are the West Point Physical Aptitude Examination results for a recent testing cycle.

The final Physical Aptitude Examination score is a total accumulated score for all items in a given examination series adjusted to a 200-800 scale. A low or high score on any one test does not determine success or failure on the entire examination.

WEST POINT PHYSICAL APTITUDE EXAMINATION
Total Candidate Population for Entrance July '70

PULLUPS	BASKETBALL THROW	STANDING BROAD JUMP		HURDLE RUN	300 YARD SHUTTLE	PERCENTILE	
18	90'	8'8"	TOP QUINTILE	33 sec	55 sec	100%	
15				34 sec			
13	80'						
11	75'	8'0"		35 sec	57 sec	80%	
10	70'						
9		7'8"					
8	67'	7'6"		36 sec	60 sec	60%	
	65'						
7	62'	7'4"	MIDDLE QUINTILE	37 sec	61 sec		
6		7'2"			62 sec	40%	
	60'						
5		7'0"		38 sec	63 sec		
4	55'				65 sec	20%	
		6'8"		39 sec			
3	50'	6'4"	BOTTOM QUINTILE	40 sec	67 sec		
1	40'	5'8"			42 sec	70 sec	

The West Point Physical Aptitude Examination score is a total adjusted score for all five items. A low or high score on any one test does not determine success or failure.

WEST POINT CANDIDATE TEST SITES

*ALASKA

Fort Richardson

ARIZONA

Fort Huachuca

CALIFORNIA

Fort MacArthur

March AFB

NAS, North Island, San Diego

Presidio of San Francisco

COLORADO

Fitzsimons GH

FLORIDA

MacDill AFB

GEORGIA

Fort Benning

Fort McPherson

*HAWAII

Tripler GH

IDAHO

Mountain Home AFB

ILLINOIS

Chanute AFB

Fort Sheridan

Scott AFB

INDIANA

Fort Benjamin Harrison

KANSAS

Fort Leavenworth

KENTUCKY

Fort Campbell

Fort Knox

LOUISIANA

Fort Polk

MARYLAND

Fort Meade

MASSACHUSETTS

Fort Devens

MICHIGAN

Selfridge AFB

MISSISSIPPI

Keesler AFB

MISSOURI

Fort Leonard Wood

MONTANA

Malmstrom AFB

NEBRASKA

Offutt AFB

NEW JERSEY

Fort Dix

NEW YORK

Griffiss AFB

West Point

NORTH CAROLINA

Fort Bragg

NORTH DAKOTA

Grand Forks AFB

Minot AFB

OHIO

Lockbourne AFB

Wright-Patterson AFB

OKLAHOMA

Fort Sill

PENNSYLVANIA

Valley Forge

SOUTH CAROLINA

Fort Jackson

SOUTH DAKOTA

Ellsworth AFB

TEXAS

William Beaumont GH

Fort Sam Houston

UTAH

Hill AFB

VIRGINIA

Fort Belvoir

WASHINGTON

Fort Lewis

*CANAL ZONE

Fort Clayton

*GERMANY

USAH Heidelberg

*JAPAN

Camp Zama

*PUERTO RICO

Fort Brooke

*Examinations will be administered during the January and March test dates only.

AFB — Air Force Base

GH — General Hospital

NAS — Naval Air Station

USAH — US Army Hospital



MEDICAL STANDARDS

Medical Examination and Disqualifications

The medical examination is the means whereby an individual's medical qualification for appointment to the service academies is determined. Medical examinations are conducted at designated examining centers (Army, Navy, Air Force) located throughout the United States and at designated overseas bases. One general standardized examination is used by all service academies. Examinations to be considered as final qualifying examinations must be taken on or after 1 June of the year preceding the year of admission. Examinations taken prior to 1 June of the year preceding the year of admissions are acceptable only as preliminary examinations, therefore an applicant is required to complete another medical examination should he receive another formal nomination. The applicant must contact the medical facility and request an appointment to have the *qualifying medical examination*. Facilities authorized to conduct qualifying medical examinations are listed pg.186

Review Procedures

The results of all medical examinations are subject to review by the medical departments of the appropriate service. The reviewing authority for the U.S. Military Academy is The Surgeon General, Department of the Army. Within eight weeks following medical examination, the candidate should receive notification of the results. All inquiries pertaining to final medical qualification should be directed to The Adjutant General, Department of the Army, ATTN: AGPB—M, Washington, D.C. 20314.

Medical qualification decisions made by the reviewing authority is final. In this respect, where the disqualifying defect is subject to medical or dental correction, the candidate may be temporarily rejected subject to later certification by a physician or dentist that the defect has been corrected with complete restoration of function. Such certification must be in the hands of the reviewing authority as soon as possible, but in any case, no later than 15 March.

Applicant Actions

It is strongly recommended that applicants arrange for another person to drive them to the testing center. Certain tests may preclude driving for several hours after the examination is completed and results in unnecessary delays. Applicants who wear contact lenses must remove them a minimum of 72 hours prior to the examination.

Candidates are encouraged to undergo a thorough medical and dental examination by their private physician and dentist before pursuing nomination and before taking a qualifying medical examination. This will serve to identify obviously disqualified applicants or those who may have remediable defects which must be corrected, at the candidate's expense, prior to taking the qualifying medical examination.

It must be clearly understood that a medical and dental examination by the applicant's civilian physician and dentist is a preliminary and exploratory one *only* and cannot be considered as a qualifying examination. Only examinations given at Army, Navy or Air Force medical facilities are acceptable as a qualifying examination.

Special Medical Examination Considerations and Disqualifications

Disqualifying medical conditions as set forth below are for use as a guide by the physician and dentist in determining medical disqualification or remediable medical and dental conditions. Reference should be made to the regulations of the applicable service for specific details as to standards of medical fitness as pertain to the Army, Navy, or Air Force.

Medical History

The medical history will be compiled with particular care with elaboration where indicated. Full and complete documentation of all illnesses, injuries and operations which the applicant may have incurred is absolutely necessary since failure to do so may result in disappointment when medical disqualification is determined later. A history of familial diseases will be thoroughly investigated. Medical care which has significantly affected the applicant's medical status must be documented and supported by statements from the attending physician or from hospital records concerning the medical care.

Height and Weight Standards

The weight standards as noted are necessarily arbitrary and as a general rule will not be waived. However, when a generally large bony structure and large well-distributed and proportioned muscle masses with little evidence of thick layers of subcutaneous fat account for the apparent excessive weight, exception to the standards may be granted. Underweight conditions will not be waived. Gross obesity is a disqualifying factor until such time as excess weight is lost. In any event, each case will be judged on its own merits. Heights should be measured to the nearest half inch. U.S. Military Academy standards of weight according to height are as follows:

64	105	183
65	106	187
66	107	191
67	111	196
68	115	202
69	119	208
70	123	214
71	127	219
72	131	225
73	135	231
74	139	237
75	143	243
76	147	248
77	151	254
78	153	260
79	159	266
80	166	273

A range in height from 66" to 80" inclusive is required. Candidates who are below the minimum height of 66" will automatically be considered for an administrative waiver by West Point, during the processing of their cases provided they have exceptional educational qualification, outstanding military record, or demonstrated outstanding abilities.

Eyes and Vision Disqualifications

Vision

Any visual acuity must correct to 20/20 with glasses (See refractive error).

Muscle Balance

1. *Esophoria* over 15 prism diopters.
2. *Exophoria* over 10 prism diopters.
3. *Hyperphoria* over 2 prism diopters.
4. Strabismus (Tropia) disqualifying for all candidates.

Color Vision

Must be able to distinguish vivid red and vivid green.

Cycloplegic Refraction

All candidates.

Refractive Error

1. *MYOPIA* exceeding -5.50 diopters in any meridian.
2. *HYPEROPIA* exceeding $+5.50$ diopters in any meridian.
3. *ASTIGMATISM* exceeding $+$ or -3.00 diopters.
4. *ANISOMETROPIA* exceeding 3.50 diopters.

Contact Lenses

Removed 72 hours prior to examination.

Waiver

None allowed.

Ears and Hearing Disqualifications

The auditory acuity of all candidates will be determined by the use of the audiometer. Maximum allowable loss in decibels and the frequencies noted is as follows:

Hearing Loss

(International Standards Organization Calibration ISO)

Frequency	500	1000	2000	3000	4000	6000	8000
Maximum Loss in Decibels							
Right Ear	30	25	25	*	45	*	*
Left Ear	30	25	25	*	45	*	*

* Not standardized or no requirement.

Both ears must be free from any disfiguring or incapacitating abnormalities. Other causes for rejection are: Existing perforations of the tympanic membrane regardless of etiology. Exostosis or other form of canal blockage resulting in examiner's inability to effectively view the tympanic membrane, may be cause for rejection.

The following table should be used to convert the International Standards Organization (ISO) Calibration given above to the American Standard (ASA) Calibration still used on many audiometers. To convert ISO to ASA, subtract the decibels loss indicated for the frequencies listed below:

Frequency	Subtract for ASA
500	15 decibels
1000	10 decibels
2000	10 decibels
3000	10 decibels
4000	5 decibels
6000	10 decibels
8000	10 decibels



Nasal Disqualifications

Any congenital or acquired lesion which interferes with the functions of the nasopharynx or eustachian tubes. Septal deviation, hypertrophic rhinitis, nasal polyps or other conditions which result in 50% or more obstruction to either airway or obstruction to drainage of any sinus. Allergic rhinitis not controllable by anti-histamines or by desensitization, or both is disqualifying for the U.S. Military Academy. History of acute or chronic sinusitis will be evaluated thoroughly and completely.

Lung and Chest Disqualifications

Tuberculosis active at any time during the past two years in any form or location. A positive skin test, without other evidence of active disease is not disqualifying. Individuals taking prophylactic chemotherapy because of recent skin test conversion are not disqualified. Pneumothorax or history thereof within 1 year of date of examination if due to simple trauma or surgery; within 3 years of date of examination if of spontaneous origin. Surgical correction is acceptable if no significant residual disease or deformity remains and pulmonary function tests are within normal limits.

Allergic Disqualifications

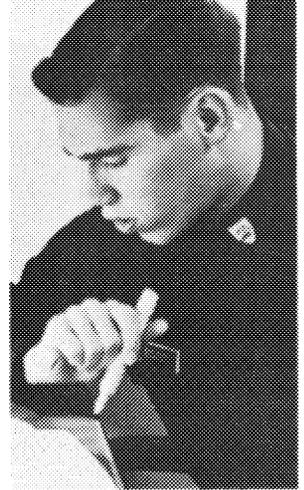
Asthma or a history of asthma, except a history of childhood asthma with a trustworthy history of freedom from symptoms since the 12th birthday, is a cause for rejection. A history of allergic rhinitis past the 12th year, including those cases in which desensitization therapy has been initiated, will be evaluated thoroughly. In many cases a specialty consultation in allergy will be required. Also see Nasal Disqualifications.

Skin Disqualifications

Psoriasis, even if moderate in degree. Acne, moderately severe or resultant scarring severe enough to interfere with wearing of personal military equipment or disfiguring scarring. Chronic skin disease such as severe eczema or unsightly congenital markings. Bromidrosis which is more than mild. Pilonidal cyst if evidenced by presence of mass or discharging sinus. Extensive deep or adherent scars that interfere with movement or wearing of military equipment.

Heart and Vascular System Disqualifications

An electrocardiogram is required of all applicants. Electrocardiographic abnormalities will be evaluated to determine if an organic basis exists. A history of rheumatic fever will require a thorough investigation including detailed history, fluoroscopic examination of the heart and an X-ray film in addition to a careful general medical examination. All murmurs will be evaluated thoroughly and indicated as functional or organic in origin. Any evidence of organic heart disease is unequivocally disqualifying. All valvular disease of the heart, including that which has been improved by surgery. Blood pressure greater than 139 millimeters or diastolic pressure greater than 89 will be cause for extensive evaluation to determine if persistent hypertension exists. Hypertension evidenced by preponderant readings of 140-mm or more systolic or preponderant diastolic pressure of over 90-mm. Heart rate greater than 100 on repeated examinations will be cause for further evaluation. Varicosities of any extremities if severe or symptomatic unless mild in degree or correctable by treatment.



Genitourinary System Disqualifications

Persistent albuminuria of any type to include so-called orthostatic albuminuria or the persistence of casts in the urine, even though the etiology cannot be determined, will be cause for rejection. Phimosis, epispadias, or pronounced hypospadias severe enough to interfere with micturition. Amputation of the penis, infantile genitalia, atrophy, absence, deformity or maldevelopment of *both* testicles, or undescended testicle of any degree unless surgically corrected. Chronic orchitis or epididymitis. Chronic kidney diseases. Repeated attacks of renal calculi. Absence of one kidney, regardless of cause.

Serologic Test

A serologic test for syphilis is required for all applicants.

Abdomen Disqualifications

Weakness of abdominal wall sufficient to interfere with function. Hernias of any type unless surgically corrected. History of operation for hernia within past 60 days is temporarily disqualifying. Chronic diseases of abdominal viscera. History of gastric or duodenal ulcer. Acute or chronic gallbladder disease. History of splenectomy for any reason other than trauma.

Orthopedic Disqualifications

Ununited fractures, old joint fractures with evidence of arthritis. Pes planus more than mild, symptomatic, or with marked bulging of the inner border due to rotation or eversion of the astragalus and any callosities. Pes cavus with clawing of the toes and calluses beneath the metatarsal heads can be cause for rejection. Hammertoes of such degree as to interfere with function or wearing of suitable footwear. Other conditions of the feet which would interfere with successful compliance with military routine. History of derangement of knee joint not corrected by surgery if symptomatic within one year preceding examination. Six months must elapse after knee surgery before final evaluation. Post operative instability, stiffness, traumatic arthritis, muscle atrophy or weakness will be thoroughly evaluated, and may be cause for rejection.

Spine and Musculoskeletal Disqualifications

Defects and diseases of the spine, scapulae, ribs, or sacroiliac joints which interfere with the daily participation in a rigorous physical training or athletic program, with the wearing of military equipment, or which detract from a smart military bearing or appearance. Spondylolysis or spondylolisthesis that is symptomatic or likely to interfere with performance. Gout. Deficient muscular development. Tuberculosis of spine, active or healed. History of herniated nucleus pulposus or surgical correction of such a condition is cause for disqualification.

Extremities Disqualifications

Total loss of either thumb. Loss of other digits sufficient to interfere with function. Loss of either great toe.

Neurological Disqualifications

History of head injury resulting in unconsciousness will be thoroughly evaluated. Lengthy periods of unconsciousness will require a complete neurological consultation to include electroencephalogram. Degenerative disorders, convulsive disorders, even though controlled by medication. Residuals of infection (polio, meningitis, etc.). Miscellaneous disorders such as tics, spasms and spina bifida, is associated with neurological manifestations. All periods of amnesia will be evaluated



thoroughly and completely regardless of length. History of unexplained unconsciousness. Multiple episodes of syncope (fainting). Documented history of migraine headaches or chronic headaches of such a nature as to interfere with daily functions or requiring medical treatment. A history of multiple episodes of air sickness (air, sea, swing, train, or carnival ride), will be thoroughly evaluated and may be cause for rejection.

Psychiatric Disqualifications

History of emotional instability, psychosis, anxiety reaction or dissociative reaction. Pathologic personality types; other obsessive compulsive reactions or neurotic depressive reaction. Addiction to alcohol or drugs. Anti-social behavior. Sexual deviation. Immaturity reaction if marked; situational maladjustment. Multiple episodes of somnambulism after 10 years of age. Multiple episodes of enuresis (bed-wetting) after 10 years of age unless proven to have an organic basis. Stammering or stuttering past the age of 10 years. History of attempted suicide. Other disorders of emotion, behavior, thought, intelligence, or mood, difficult to define, will be thoroughly evaluated and may be cause for rejection.

Endocrine and Metabolic Disqualifications

Diabetes mellitus is disqualifying for the U.S. Military Academy. Persistent glycosuria including renal glycosuria is disqualifying. Exophthalmic or adenomatous goiter, from any cause associated with toxic symptoms. History of thyroidectomy. History of partial thyroidectomy will be cause for thorough evaluation and may be disqualifying. Other endocrine or metabolic disorders which preclude satisfactory performance of duty or which would require long term treatment.

Dental Disqualifications

1. Diseases and abnormalities of the mouth:
 - a. Diseases such as cysts, tumors, osteomyelitis and other acute or chronic conditions which are not easily remedied and which will incapacitate the individual.
 - b. Loss of oral tissues sufficient to prevent replacement of missing teeth with a satisfactory prosthetic appliance.
 - c. Perforation(s) of the hard palate.
 - d. Harelip, unless satisfactorily repaired by surgery, and unsightly mutilations at the lip.
 - e. Fractures:
 - (1) Malunion of a fracture that interferes significantly with function.
 - (2) Ununited fractures.
 - (3) Any fracture in which an insert such as a plate, pin or screw was left in place for fixation and may be subject to easy trauma.
 - f. Deformities or conditions of the mouth, to include insufficient functionally opposed natural or artificial teeth or malocclusion, which interfere with mastication and swallowing of ordinary food, speech or breathing.
 - g. A skeletal relationship between the mandible and maxilla which will preclude future satisfactory prosthetic replacement, if necessary.
2. Teeth:
 - a. Numerous carious teeth which are unfilled or improperly filled or restored may be cause for disqualification.
 - b. Grossly disfiguring spacing of anterior teeth.



MEDICAL EXAMINATION FACILITIES

ALABAMA

Fort McClellan
Fort Rucker
Maxwell Air Force Base

ALASKA

Elmendorf Air Force Base
Naval Air Station, Adak
Naval Air Station, Kodiak

ARIZONA

Davis-Monthan Air Force Base
Fort Huachuca
Williams Air Force Base

ARKANSAS

Blytheville Air Force Base
Little Rock Air Force Base

CALIFORNIA

Beale Air Force Base
Castle Air Force Base
Edwards Air Force Base
Fort Ord
Georgia Air Force Base
Hamilton Air Force Base
Letterman General Hospital
March Air Force Base
Mather Air Force Base
McClellan Air Force Base
Travis Air Force Base
U.S. Naval Air Station, Alameda
Naval Hospital, Camp Pendleton
Naval Air Station, El Centro
Naval Air Station, Ream Field
Lemoore Naval Hospital
Naval Hospital, Long Beach
Naval Air Station, Moffett Field
NALF, Monterey
Naval Hospital, Oakland
Naval Missile Center, Point Mugu
Marine Corps Air Station, Santa Ana
Naval Hospital, San Diego
Naval Air Station, North Island, San Diego
Naval Air Station, Miramar, San Diego
U.S. Marine Corp Air Station, El Toro
Vandenberg Air Force Base

COLORADO

Fitzsimons General Hospital
Lowry Air Force Base
U.S. Air Force Academy

DELAWARE

Dover Air Force Base

DISTRICT OF COLUMBIA

Walter Reed General Hospital

FLORIDA

Eglin Air Force Base
Homestead Air Force Base
MacDill Air Force Base
Tyndall Air Force Base
Naval Air Station, Jacksonville
Naval Hospital, Key West
NAMI Hospital, Pensacola
Naval Hospital, Orlando

GEORGIA

Fort Benning
Fort Gordon, Goovetown
Fort McPherson
Fort Stewart
Moody Air Force Base
Robins Air Force Base
Turner Air Force Base
Naval Air Station, Atlanta
Naval Air Station, Glynco

HAWAII

Hickam Air Force Base
Tripler General Hospital
Naval Air Station, Barbers Point

IDAHO

Mountain Home Air Force Base

ILLINOIS

Chanute Air Force Base
Fort Sheridan
Scott Air Force Base
Naval Hospital, Great Lakes
Naval Air Station, Glenview

INDIANA

Fort Benjamin Harrison
Grissom Air Force Base

KANSAS

Fort Leavenworth
Fort Riley
McConnell Air Force Base
Forbes Air Force Base

KENTUCKY

Fort Knox
Fort Campbell

LOUISIANA

Barksdale Air Force Base
England Air Force Base
Fort Polk
Naval Air Station, New Orleans

MAINE

Loring Air Force Base
Naval Hospital, Brunswick

MARYLAND

Andrews Air Force Base
Fort Meade
U.S. Naval Academy, Annapolis
Naval Air Station, Patuxent

MASSACHUSETTS

Fort Devens
Otis Air Force Base
Naval Hospital, Chelsea
Naval Air Station, South Weymouth
Westover Air Force Base

MICHIGAN

Kincheloe Air Force Base
K. I. Sawyer Air Force Base
Naval Air Facility, Detroit
Wurtsmith Air Force Base

MINNESOTA

5501 USAH, Fort Snelling

MISSISSIPPI

Columbus Air Force Base
Keesler Air Force Base
NAAS, Meridian

MISSOURI

Fort Leonard Wood
Richards-Gebaur Air Force Base
Whiteman Air Force Base

MONTANA

Malmstrom Air Force Base

NEBRASKA

Offutt Air Force Base

NEVADA

Nellis Air Force Base

NEW HAMPSHIRE

Pease Air Force Base
Naval Hospital, Portsmouth

NEW JERSEY

Fort Dix
Fort Monmouth
McGuire Air Force Base
Naval Air Station, Lakehurst

NEW MEXICO

Cannon Air Force Base
Holloman Air Force Base
Kirtland Air Force Base

NEW YORK

Griffis Air Force Base
Plattsburgh Air Force Base
Naval Hospital, St. Albans, L. I.
U.S. Military Academy, West Point

NORTH CAROLINA

Fort Bragg
Seymour Johnson Air Force Base
Naval Hospital, Camp Lejeune
Naval Hospital, Cherry Point

NORTH DAKOTA

Grand Forks Air Force Base
Minot Air Force Base

OHIO

Lockbourne Air Force Base
Wright-Patterson Air Force Base

OKLAHOMA

Altus Air Force Base
Fort Sill
Tinker Air Force Base

OREGON

Portland International Airport

PENNSYLVANIA

Carlisle Barracks
NAF, Johnsville
Naval Hospital, Philadelphia
Naval Air Station, Willow Grove
Valley Forge General Hospital

RHODE ISLAND

Naval Hospital, Newport
Naval Station, Newport
Naval Air Station, Quonset Point

SOUTH CAROLINA

Charleston Air Force Base

Fort Jackson
Shaw Air Force Base
Naval Hospital, Beaufort
Naval Hospital, Charleston
U.S. Marine Corps Air Station, Beaufort

SOUTH DAKOTA
Ellsworth Air Force Base

TENNESSEE
Fort Campbell
Naval Air Station, Memphis

TEXAS
Bergstrom Air Force Base
Carswell Air Force Base
Dyess Air Force Base
Fort Hood
Fort Sam Houston
Lackland Air Force Base
Laredo Air Force Base
Laughlin Air Force Base
Perrin Air Force Base
Randolph Air Force Base
Reese Air Force Base
Sheppard Air Force Base
NAAS, Beeville
Naval Hospital, Corpus Christi
Naval Air Station, Corpus Christi
Naval Air Station, Dallas
Naval Air Station, Kingsville
Webb Air Force Base
Wm. Beaumont General Hospital

UTAH
Hill Air Force Base

VIRGINIA
Langley Air Force Base
Fort Belvoir
Fort Eustis
Fort Lee
Fort Monroe
Naval Air Station, Norfolk
Naval Hospital, Portsmouth
Naval Hospital, Quantico
Marine Corp Air Station, Quantico
Naval Air Station, Virginia Beach

WASHINGTON
Fairchild Air Force Base
Fort Lewis
McChord Air Force Base
Naval Hospital, Bremerton
Naval Air Station, Seattle
Naval Air Station, Whidbey Island

WYOMING
Warren Air Force Base

BELGIUM
SHAPE Intn'l Hosp, Brussels

CANAL ZONE
Albrook Air Force Base
Fort Clayton

CUBA
Naval Hospital, Guantanamo Bay

ENGLAND
S. Ruislip Air Station
U.S. Naval Support Activity, London

GERMANY
USAH Augsburg
USAH Bad Cannstatt
USAH Bad Krenznach
USAH Berlin
USAH Bremerhaven
USAGH Frankfurt
USAH Heidelberg
USAGH Landstuhl
USAH Munich
USAH Neubruecke
USAH Nuernberg
USAH Wuerzburg
Wiesbaden AFB

GUAM
Naval Hospital

ITALY
Naval, Hospital, Naples
USAH, Vicenza

JAPAN
Camp Zama
Tachikawa Air Force Base
Naval Hospital, Yokosuka

NEWFOUNDLAND
U.S. Naval Station, Argentia

PHILIPPINES
Clark Air Force Base
U.S. Naval Station, Subic Bay

PUERTO RICO
Ramey Air Force Base, Aguadilla
USNAS, Roosevelt Roads

SPAIN
Naval Hospital, Torrejon
Naval Air Station, Rota

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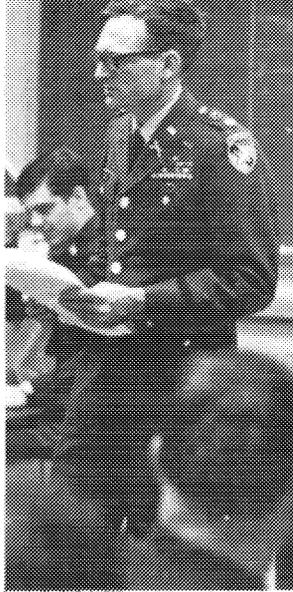
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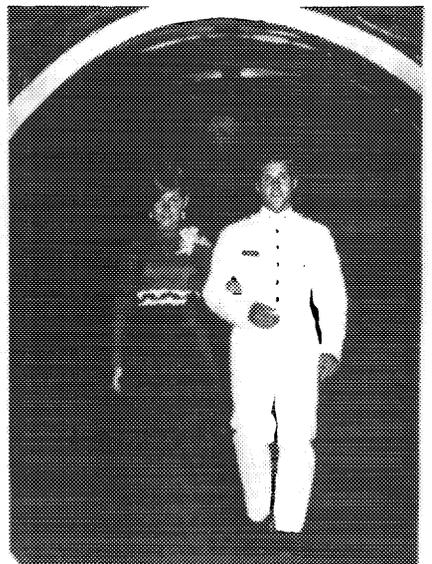
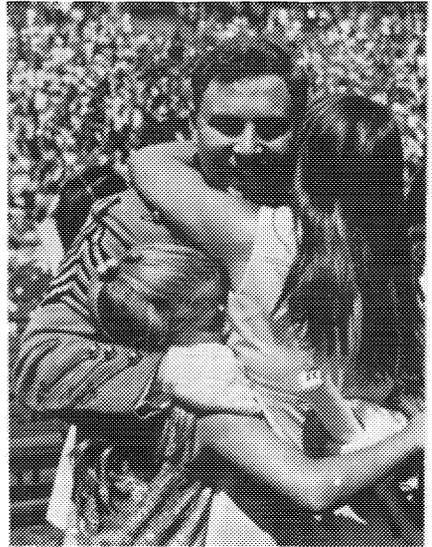
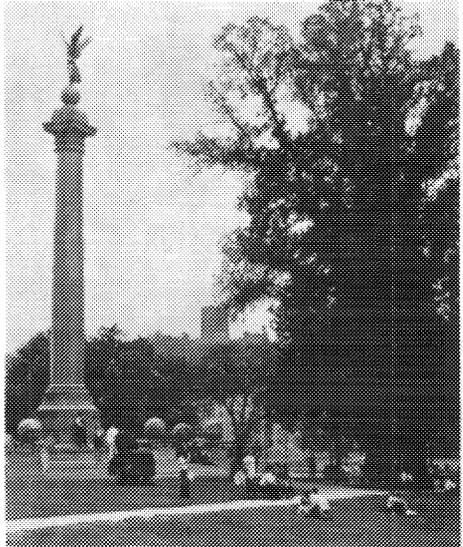
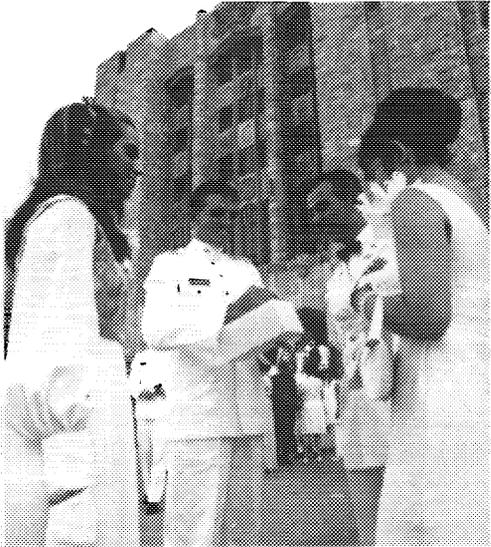
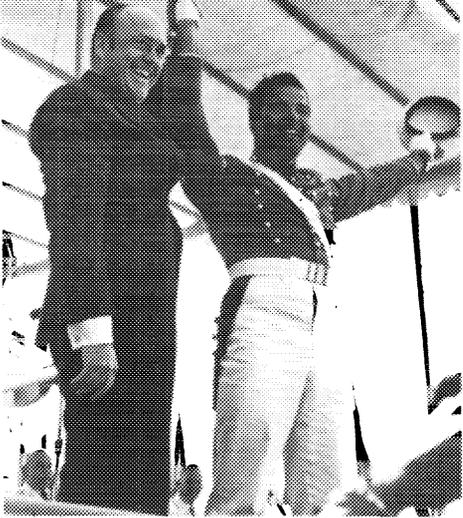
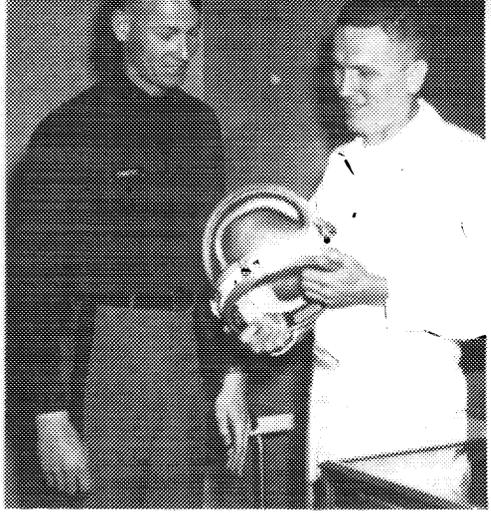


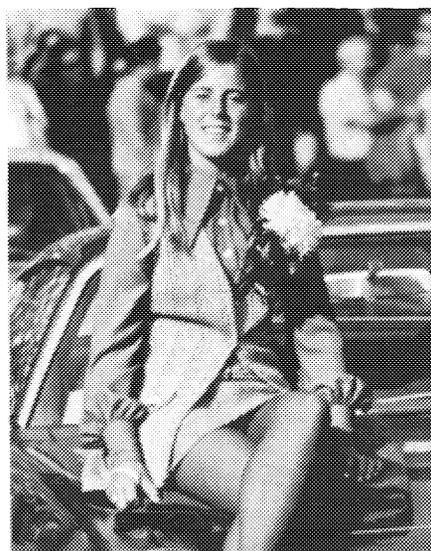
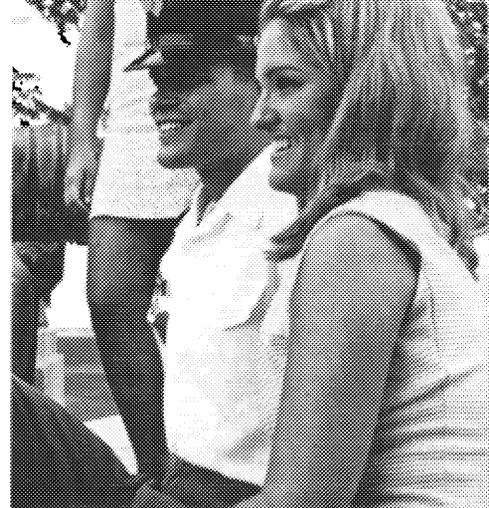
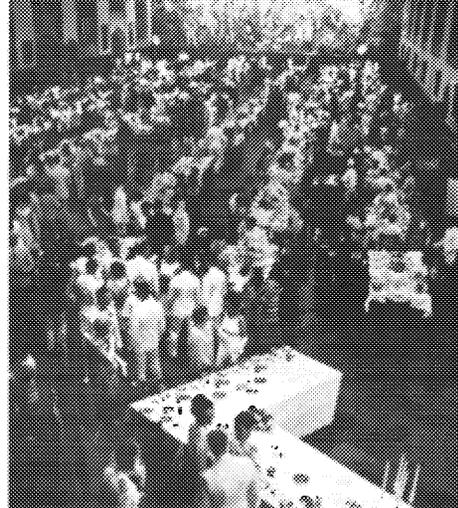
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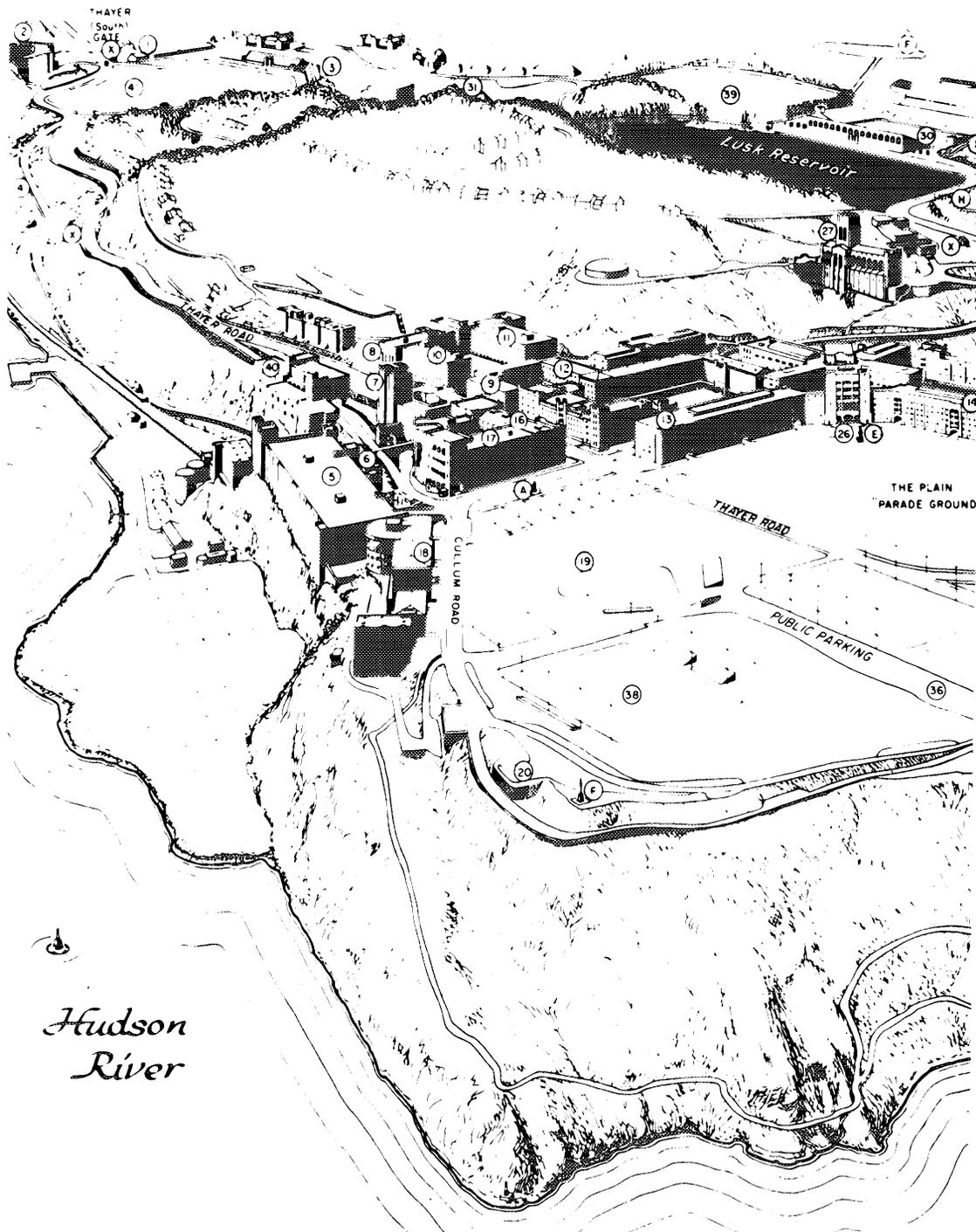






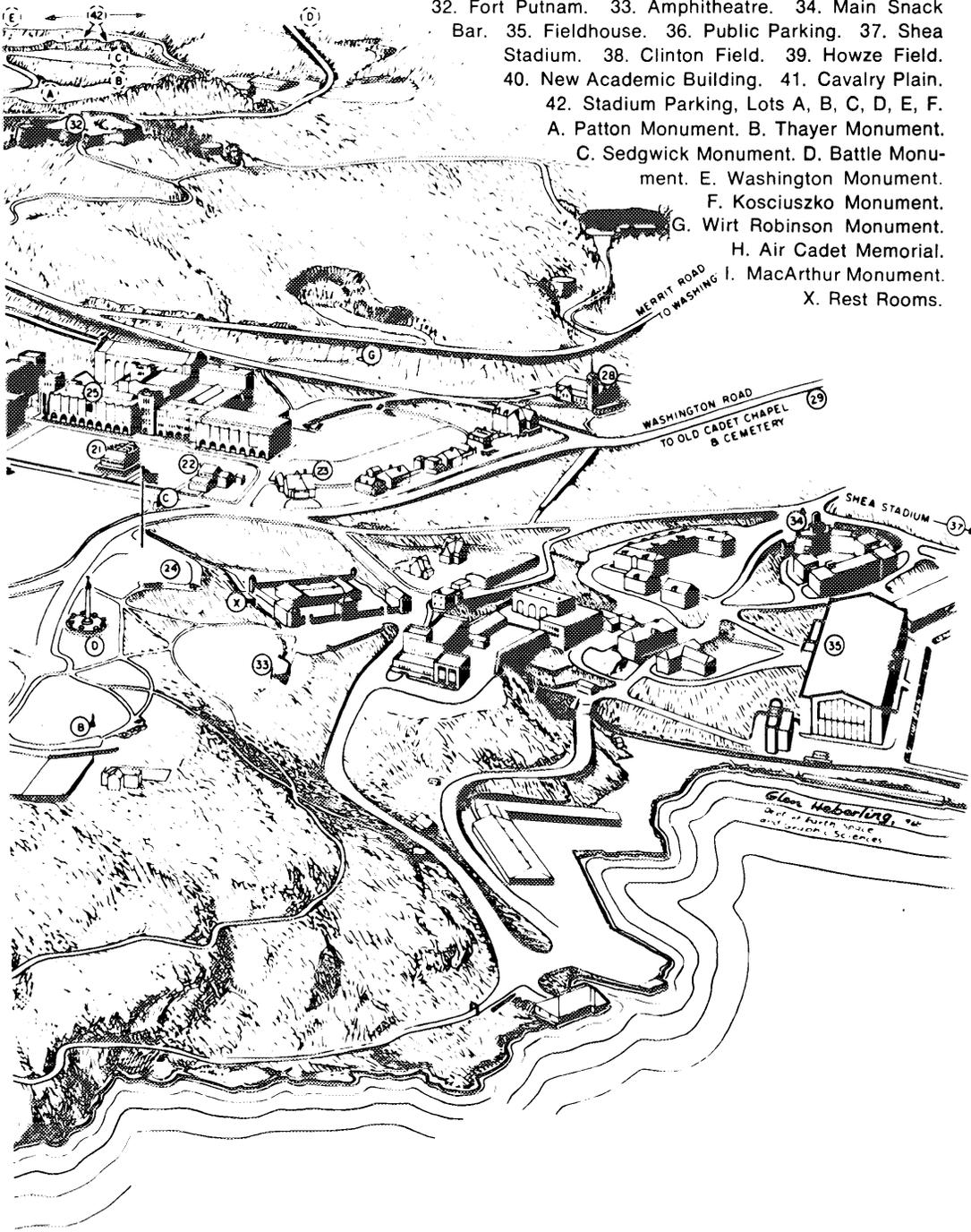


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INDEX

Academic Board	14	Honor Code	108
Academic Calendar	I.F.C.	Honors Courses	20
Academic Computer Center	26	Instructional Technology Center	27
Academic Curriculum	17	Instructor Group	27
Academic Program	12	Intercollegiate Athletics	139
Academic Qualifications	149	Inter-Service Transfers	164
Academy Facilities	169	Law, Department of	65
Accreditation	19	Leadership Evaluation System	107
Administration	6	Lecture Program	93
Admissions	147	Library	97
Admissions Procedure Guide	147	Listing of Courses	20
Allied Cadets	159	Mathematics, Department of	67
American College Testing (ACT) Program	149	Mechanics, Department of	74
Appendices	167	Medical Examination Facilities	186
Appointment Upon Graduation	107	Medical Standards	180
Areas of Concentration & Associated Elective Fields	21	Methods of Instruction	20
Association of Graduates	173	Military Hygiene, Department of	78
Board of Visitors	171	Military Instruction, Office of	115
Cadet Activities	127	Military Program	104
Cadets' Prayer	I.B.C.	Military Psychology & Leadership, Office of	79
Cadet Public Relations Council	137	Military Service Connected Cadetships	158
Cadetships and Nominations	152	Military Service Connected Nominations	155
Candidate Test Sites	179	Mission of The Military Academy	5
Chemistry, Department of	34	Museum	143
College Entrance Examination	150	Nominations	152
College Entrance Examination Board (CEEB) Tests	149	Notification of Admission	159
College Personnel	189	Oath of Office (Oath of Allegiance)	161
Congressional Cadetships	152	Pay and Allowances	106
Congressional Nomination	153	Physical Aptitude Examination	177
How to Apply for a Congressional Nomination	154	Physical Education, Office of	119
Core and Elective Programs	18	Physics, Department of	83
Corps of Cadets -- Organization	106	Preparation, Academic	159
Counseling and Advising	124	Preparation, Leadership	160
Critical Dates for Candidates	I.F.C.	Preparation, Physical	160
Dean, Office of	25	Preparatory School	162
Departments, Academic	25	Qualifications, Academic	149
ES&GS, Department of	37	Qualifications, Medical	151
Educational Philosophy	13	Qualifications, Physical Aptitude	149
Elective Courses	20	Religious Activities	125
Electrical Engineering, Department of	42	Research, Office of	146
Engineering, Department of	45	Resignations & Separations	162
English, Department of	51	Scholarships	101
Entrance Requirements	148	Service Connected Nomination, How to Apply	157
Exchange of Medical Examinations Among the Military Services	152	Service Life	164
Fields of Concentration, Courses Within	28	Social Sciences, Department of	88
Foreign Languages, Department of	55	Tactics, Department of	111
Graduate Civil Schooling	101	Test Sites Listing	179
History	8	Typical Daily Schedule	109
History, Department of	60	Validation & Advanced Placement	20
		West Point Alumni Foundation	176
		West Point Map	206-207
		West Point Societies	136

CADETS' PRAYER

O God, our Father, theme of holy verse!
Thou Searcher of men's souls and of their hearts!
Lord of all life! King of the universe! —
Accept this pray'r The Corps to Thee imparts:
Help us draw near Thee in sincerity
And truth, in sweet religion's sake and fold;
Teach us to choose the harder right; with Thee
To spurn the half-truth — to the full one hold.
Endow us, Lord, with courage that is born
Of loyalty to all that's noble and
Deserves Thy worth; teach us, Thy sons, to scorn
All vice, injustice — but with Truth to stand.
Grant us new ties of friendship, that will hold
Steadfast throughout our service tour and life;
Kindle our hearts with fellowship — twofold —
For those in happy state and those in strife.
Help us maintain the Honor of The Corps
Untarnished — and the Ideals of West Point;
To match the steps of those who've gone before,
And ne'er The Corps let down or disappoint.
In life, in death, we seek THEE as our host —
In name of Thee, Thy Son, and Holy Ghost.—Amen.
Harry de Metropolis
Class of 1939



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