

West Point Calendar

1985
-86

1985

12 August, Monday	— Reorganization Week Begins
19 August, Monday	— First Term Begins
1-2 September Sunday-Monday	— Labor Day Weekend (<i>Holiday, Saturday Classes will be held</i>)
12-13 October, Saturday-Sunday	— Autumn Weekend (<i>Classes will be held</i>)
14 October, Monday	— Columbus Day (<i>Classes will be held</i>)
26 October, Saturday	— Homecoming (<i>Classes Suspended</i>)
11 November, Monday	— Veterans' Day (<i>Holiday, Classes Suspended</i>)
28 November-1 December, Thursday-Sunday	— Thanksgiving Holiday (<i>Friday and Saturday Classes Suspended</i>)
7 December, Saturday	— Army-Navy Football Game (<i>All Cadets Attend, Classes Suspended</i>)
12 December, Thursday	— Final Class Day, First Term
14 December, Saturday	— Term-End Exams Begin
20 December, Friday	— First Term Ends

Christmas Leave begins upon completion of last examination or military duty.

1986

7 January, Tuesday	— Christmas Leave Ends (8:00 PM)
9 January, Thursday	— Second Term Begins
20 January, Monday	— Dr. King's Birthday (<i>Classes Suspended</i>)
15-17 February, Saturday-Monday	— Washington's Birthday Weekend (<i>Holiday, Classes Suspended</i>)
7 March, Friday	— Spring Leave Begins (3:30 P.M.)
16 March, Sunday	— Spring Leave Ends (8:00 PM)
9 May, Friday	— Final Class Day, Second Term
12 May, Monday	— Term-End Exams Begin
20 May, Tuesday	— Second Term Ends
22 May, Thursday	— Graduation Week Begins
28 May, Wednesday	— Graduation Day, Class of 1986

— Beginning of approximately four weeks of leave for new Third Class prior to reporting to Camp Buckner for summer training.

1 July, Tuesday — Reporting Day, Class of 1990

This Calendar should not be considered a contract between the US Military Academy and any prospective candidate. These dates are subject to change to meet varying requirements of the US Army.

"I would tell a plebe, 'Whatever you do keep your sense of humor.' It's your sense of humor that pulls you through."

Have courses. Need to convert to credits or hours

1985
W. Point

According to Joe Myers, the credit hours in 1985, 1995 and 2005 can be converted to in-class hours by the following remarks:

3CH means 40 in-class hours over the semester (as per your email)

3.5 CH means 48 in-class hours over the semester

4 64 in class hours (56 are with out of class prep and 8 are "labs" with no prep -- see next line)

4.5 64 in class hours, same as above -- This is probably the nuance I spoke of below -

"Our first semester core math course has the same number of attendances and prep as the following two semesters, but carries 1/2 less CH just for nice rounding purposes -- the CH for the 3 semester sequence is accurate and that's good enough."

9 Is this really a 1-semester course? I bet it is the 2-semester sequence MA104/205, and so would mean 64 in-class hours for each of two semesters, 4.5CH each semester.

16 wk sem

Myers

CH	In-class hours	
3	40	$\rightarrow 40/3 = 13.3$ hrs/CH
3.5	48	$\rightarrow 48/3.5 = 13.7$
4	64	$\rightarrow 64/4 = 16$
4.5	64	$\rightarrow 64/4.5 = 14.2$

1760 min

44 crses
40 hrs

15 wks
3 hrs

45 hrs
400 courses

$$\frac{3 \times 64}{13}$$

Math portion of core

15.5 CH
 $\times 13.5$

13.5 in-class hrs per CH for CORE
13.3 in-class hrs per CH for electives

120 cr
 $\frac{15}{600}$
120

64
64
48
40

216

$$13.5 \times 103 + 13.3 \times 36 = 1390.5 + 478.8 = 1869.3 \text{ hrs}$$

1981: incl phys ed } for 4 yrs prog + phys ed (use 100 hrs)

1985 W. Point Credits

	Courses	Cred.	Hrs.
Core	32		
Math in core	4		
Electives for Math Major	12	$3 \times 12 = 36$	36×40
8 Phys Ed courses			
4 mil Science courses		8 based on 1979	

Needed.

More detailed version p46 with credits ¹⁹⁸⁵ Dutkut ?
 In class hours for military science. (Arney ?) ✓ Got
 Mil Sci courses w contents & credits 1985, 95 Dutkut
 Intram \subset Ph. Ed. Giordano Germain.
~~Mil Sci 1, 3, 2 cred. Joe~~
 Complement. change. Gro, Krahn, Jend
 16 wks 2005.

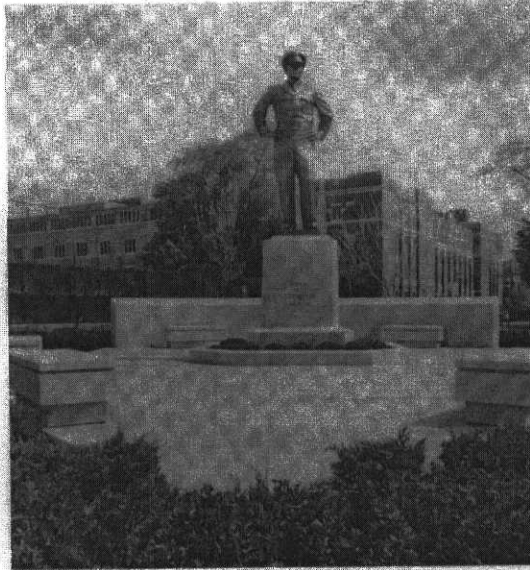
1965 P. Ed 334

1985

316
 48

 364

Your Military Academy



The General Dwight D. Eisenhower memorial.

"Leadership cannot be exercised by the weak. It demands strength—the strength of this great nation when its people are united in purpose, united in a common fundamental faith, united in their readiness to work for human freedom and peace; this spiritual and economic strength, in turn, must be reinforced in a still armed world by the physical strength necessary for the defense of ourselves and our friends."

Dwight D. Eisenhower

in USMA's 180-year history. Majors are to be optional and secondary, in the sense that the broad core curriculum is considered to be every cadet's professional "major." Majors will, however, allow cadets to pursue an academic discipline of their choice in greater depth.

Academic and military life at West Point has changed steadily over the years, along with the expansion of knowledge and the changing needs of the Army and the nation. Yet West Point remains linked to its illustrious past, true to the timeless Thayer philosophy—leadership with academic excellence and personal integrity.

Cadet Life

Daily life at West Point is guided by the following objectives which the Military Academy strives to develop in each cadet: a broad collegiate education in the arts and sciences upon which a Regular Army officer can base that continued intellectual development essential to a military career; physical attributes essential to a career as an officer of the Regular Army; a broad military education, rather than individual technical proficiency; and a high sense of duty and the attributes of character with emphasis on integrity, discipline, and motivation essential to the profession of arms.

Academic

To graduate and qualify for a Bachelor of Science degree, a cadet must complete successfully 44 one-semester courses (normally 5-6 per term), as well as the physical education and military science programs. The academic

program consists of 32 core courses, and 12 electives. Cadets choose a field of study from approximately 30 offerings. Optional majors are also available in 16 fields. A quality point average of 2.0 (a "C" average) must be achieved to graduate.

Physical

Upon entering West Point you will suddenly find yourself an athlete—perhaps not an intercollegiate athlete, but certainly one to be reckoned with in one of more than 30 intramural and club sports. The Military Academy takes pride in what many consider the best athletic program in the country. All cadets participate in six standard physical education courses as well as intramurals.

Military

Although military training gets strongest emphasis during the summer, it pervades the four-year experience at West Point. Military science courses are required each academic year as are uniforms, salutes, shined shoes and other military traditions. Summer training ranges from rifle marksmanship to parachuting; from Air Assault School to Aviation School; from arctic training in Alaska to Jungle School in Panama. Each cadet spends one summer month serving with an active Army unit in Germany, Korea, Alaska, Panama, Hawaii, or the continental United States.

The Honor Code

"A cadet will not lie, cheat, or steal nor tolerate those who do."

The Honor System

High ethical standards are the very soul of the Army officer corps and must be understood and adhered to by each officer as part of the way of life. At the United States Military Academy acceptance by cadets of the spirit of the Honor Code as an unyielding part of their daily life is the principal method of developing personal integrity. All West Point graduates must have the strength of character to maintain these high standards of professional conduct.

The Code is not a regulation promulgated by the Military Academy authorities. Rather, it has its origin among the cadets themselves who initially adopted it to enhance the quality of cadet life. Today the Corps administers the system which supports the Code and continues to keep its spirit alive through the Cadet Honor Commit-

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W. Point 1985-86

Academic Program

The Dual-Track Curriculum

The Military Academy's dual-track academic curriculum offers a balanced education in engineering and the arts and sciences, while also permitting cadets to pursue academic specialization in a field of study or optional major of their choice. The two complements of the curriculum are a broad, general core program which is prescribed, and an elective program which is individually selected.

The core curriculum consists of 32 courses that the Academy considers essential to the broad base of knowledge necessary for each graduate. To ensure that the core curriculum not only provides the base for long-term professional development, but also supports the subsequent choice of a field of study or major, several of the core courses are offered in different versions related to the curricular track chosen by the cadet at the end of the freshman year. There are two tracks of study available: a mathematics-science-engineering (MSE) track and a humanities-public affairs (HPA) track. The selection of a curricular track begins the process of academic specialization that supports the cadet's subsequent choice of a field of study or major at the end of the sophomore year.

Within the MSE track there are ten fields of study with eight optional majors. In the HPA track there are 17 fields of study with eight optional majors. Cadets select one of these fields of study or majors for the concentration of their elective courses, of which they have at least eight. This number may be increased depending on the number of core courses validated and enrollment in advanced or accelerated programs. With approval of the Dean, upperclass cadets may also take overload electives.

For most cadets the anticipated path to graduation will be the field of study. The combination of this academic specialization with the Academy's "professional major" prepares each graduate for careers as commissioned officers in the Army, the primary objective of West Point. For some cadets an optional majors program is appropriate. A major explores a subject in slightly more depth than a field of study. Cadets electing to pursue a major normally give up at least one of their two free electives, follow a more structured elective sequence, and must complete a senior research project or thesis. Optional majors are open to all cadets.

Validation and Advanced Placement

Cadets may be excused from (validate) certain core courses if they have sufficient knowledge of a subject to meet the appropriate department's standards. Credit earned in other colleges, scores on the Advanced Placement Examination, and tests administered at the Military Academy are considered in validation decisions. Validation of a core course does not lighten the academic load; rather, it allows a cadet an additional elective in place of the validated course. If a cadet shows unusual ability, or has prior knowledge of a subject but cannot validate it, he or she may be enrolled in an advanced or accelerated program.

Honors Courses and Individual Advanced Study

If a cadet is an exceptional student, he or she may enroll in an honors course or advanced individual study in any of the disciplines taught at the Military Academy. These programs emphasize independent or tutorial work and are excellent preparation for graduate study.

The chart on the next page depicts the Military Academy's dual-track curriculum. To graduate, cadets must successfully complete the requirements of one field of study or major; pass at least 44 academic courses to include successful completion or validation of each course in the core curriculum, eight physical education and four military science courses; and achieve a cumulative grade point average of at least 2.0.



W. Point 1985-86

~20 departments.

Academic Program

The Dual-Track Curriculum

"Fairness, diligence, sound preparation, professional skill and loyalty are the marks of American military leadership."

General Omar N. Bradley

Fourth Class (Freshman) Year	1		MATH	CHEM	COMP SCI	ENGL	HIST ⁽¹⁾	
	2		MATH	CHEM	PSYCH	LIT	HIST ⁽¹⁾	
Third Class (Sophomore) Year	1		MATH*	PHYS*	POL SCI	PHIL	FRN ⁽²⁾ LANG	TERR ANAL
	2		PHYS*	MATH*	ELECTIVE	FRN ⁽²⁾ LANG	ECON	
Second Class (Junior) Year	1		ELTRL ENGR	ENGR MECH	CONST LAW	MIL HIST	INT'L REL	
	2		ENGR SCI	LDRSH	FREE ELECTIVE	MIL HIST	ENGL	
First Class (Senior) Year	1		12 FIELD ELECTIVES		ENGR*	MIL LAW	12 FIELD ELECTIVES	
	2				ENGR*			

*DIFFERENT VERSIONS FOR MSE & HPA TRACKS

MATH-SCIENCE-ENGINEERING (MSE) TRACK

HUMANITIES-PUBLIC AFFAIRS (HPA) TRACK

ACADEMIC COURSES

CORE	32	shaded
ELECTIVES	12	
	44	(Does not include 8 phys ed or 4 military science courses)

32 courses
 x 3.23 CH/course
 103.36 CH in core
 12 electives
 x 3
 36
 x based on 1995
 Total CH for
 4 yrs
 139.
 Hours

Mathematics-Science-Engineering Track
Fields of Study/Majors
(All majors are capitalized)

- Applied Sciences and Engineering Interdisciplinary
- Basic Sciences Interdisciplinary
- CHEMISTRY
- CIVIL ENGINEERING and Applied Science and Engineering (Civil)
- COMPUTER SCIENCE
- ELECTRICAL ENGINEERING and Applied Sciences and Engineering (Electrical)
- Management and ENGINEERING
- MANAGEMENT
- MATHEMATICAL SCIENCES
- MECHANICAL ENGINEERING and Applied Sciences and Engineering (Mechanical)
- Nuclear Engineering
- Operations Research
- Physics and ENGINEERING PHYSICS

Humanities and Public Affairs Track
Fields of Study/Majors
(All majors are capitalized)

- American Studies
- BEHAVIORAL SCIENCES
- ECONOMICS
- Foreign Area Studies
- FOREIGN LANGUAGES
- GEOGRAPHY
- HISTORY
- Humanities Interdisciplinary
- International Affairs
- LITERATURE
- MANAGEMENT
- Military History
- Military Studies
- Modern History
- National Security and Public Affairs Interdisciplinary
- Philosophy
- POLITICAL SCIENCE

NOTES: (1) Choice of world, European, or American history.
 (2) Foreign Languages available: Arabic, Chinese, French, German, Portuguese, Spanish, and Russian.

Courses

ACADEMIC DEPARTMENTS, FIELDS OF STUDY/ MAJORS, AND COURSES OF INSTRUCTION

The 13 academic departments at the Military Academy, under the direction of the Dean of the Academic Board, are organized to support the core curriculum as well as the 27 fields of study and 16 optional majors offered at West Point. Within the humanities and public affairs (HPA) track, cadets may concentrate in either the humanities area or in the area of national security and public affairs. For the mathematics-science-engineering (MSE) track, fields of study or majors are offered in both the applied sciences and engineering, and the basic sciences.

In addition to the academic departments, the Commandant of Cadets oversees the Department of Military Instruction and the Department of Physical Education.

NOTE: For the courses described in this section, first-year courses are numbered in the 100s, second-year in the 200s, third in the 300s, and fourth in the 400s. The second digit indicates the level of the course: 0 = standard, 4 or 5 = advanced, 7, 8, or 9 = elective courses. Credit hours represent contact hours and associated preparation; e.g. 3.5 credit hours are assigned to a course that meets three times a week for a sixteen week term and requires two hours preparation for each hour in class.

16 weeks

$$3c + 6h = 3.5$$

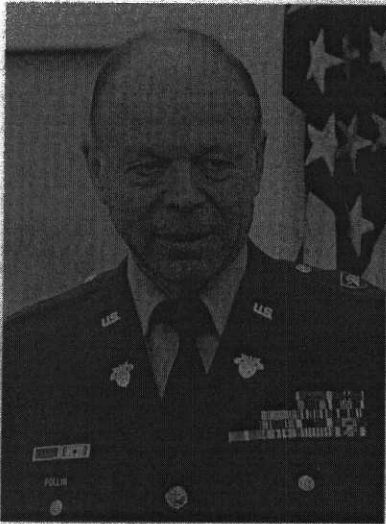
$$3(c + 2h) = 3.5$$

$$2\frac{1}{2}(c + 2h) = 3$$

$$\frac{1}{2}(c + 2h) = .5$$

$$c + 2h = 1$$

Special academic help is readily available for cadets.



COL Jack M. Pollin,
Professor and
Head of the
Department of
Mathematics

Department of Mathematics

The Department of Mathematics provides each cadet the opportunity to gain the mathematical education essential to progressive and continuing development throughout a career as a Regular Army officer. Emphasis is placed on achieving intellectual discipline, mastery of reasoning, understanding of mathematical concepts, skill in practical applications of mathematics and appreciation for the role of mathematics in the military. The core requirement in mathematics is satisfied by successful completion of the standard program or

completion of one of the advanced programs. The programs differ slightly depending on the cadet's decision to concentrate his studies in the MSE track or the HPA track, and whether the cadet has completed previous undergraduate courses in mathematics. Cadets with weak backgrounds in algebra and trigonometry will be required to complete a course in precalculus, usually as an elective, prior to undertaking the standard program. In addition to the core program, the Department of Mathematics has responsibility for a field of study and optional major in the mathematical sciences, and, in conjunction with the Department of Engineering, a field of study in operations research.

Mathematical Sciences Field of Study and Major

The Department of Mathematics offers a wide range of elective courses which enable cadets to complete either a field of study or a major in the mathematical sciences. Depending on the interest of each cadet, programs of study generally are organized to focus on mathematics of the applied sciences, mathematics of operations research, or mathematics of computation.

Operations Research Field of Study

The Operations Research field of study deals with the application of logical thought and quantitative methods to provide commanders and managers with a sound basis for decision-making. The focus of study at the Military Academy is on optimization methods, applications of probability and statistics, and modeling. Cadets electing the Operations Research field of study must be in the MSE track and take one of five MSE engineering options (civil, civil (honors), mechanical, electrical, or nuclear) in addition to operations research field and elective courses.

Mathematics Programs— Humanities and Public Affairs Concentrators

Standard Program:

MA 103-104; MA 201-301

Advanced Program II:

MA 151-152; MA 301

Advanced Program III:

MA 157-158

Mathematics Programs— Mathematics, Science, and Engineering Concentrators

Standard Program:

MA 103-104; MA 201-262; MA 301

Advanced Program II:

MA 151-152; MA 262-301

Advanced Program III:

MA 157-158; MA 262

15.5
cr hrs

MA 100 Precalculus Mathematics

First Term—Prerequisite: None

Prepares cadets with background deficiencies in algebra and trigonometry for the study of calculus. Students who must begin their study of mathematics with MA 100 will give up one elective opportunity later in their studies.

3 Credit Hours

Standard/Advanced Program Courses

MA 103-MA 104 Calculus and Matrix Algebra

Both Terms—Prerequisite: None

A rigorous treatment of differential and integral calculus of single variable algebraic functions is coordinated with plane analytic geometry and applications. Included is the study of calculus of transcendental functions, polar coordinates, plane vectors, and introductory matrix algebra.

9 Credit Hours

MA 151-MA 152 Advanced Placement Calculus, Introductory Differential Equations and Matrix Algebra

First Term—MA 151; Second Term—MA 152—Prerequisite: Selection by Head of Department

Offered to students who demonstrated mastery of the content of MA 103. After a brief period of review and validation by examination of MA 103, the course proceeds with the mate-

123
total
hrs

rial in MA 104 and MA 201. Successful completion provides for one additional elective.

9 Credit Hours

MA 157-MA 158 Advanced Placement Calculus, Introductory Differential Equations, Probability and Statistics and Matrix Algebra

First Term—MA 157; Second Term—MA 158—Prerequisite: Selection by Head of Department

Offered to students who demonstrated mastery of the content of MA 103 and MA 104. After a brief period of review and validation by examination of MA 103 and MA 104, the course proceeds with the material in MA 201 and MA 301. Successful completion provides for two additional electives.

9 Credit Hours

MA 201 Multivariable Calculus and Introductory Vector Calculus

First Term—Prerequisite: MA 103-104

Designed for students who desire to continue study in the physical and engineering sciences. A treatment of vectors in three dimensions and vector operations is followed by the differential and integral calculus of functions of several variables with physical applications. The course concludes with a treatment of line and surface integrals, Green's Theorem, Stokes' and Divergence Theorems. The divergence and curl of a vector field are presented and, together with vector integration, are used in physical applications.

3.5 Credit Hours

MA 203 Multivariable Calculus and Introductory Differential Equations

Both Terms—Prerequisites: MA 103-104

Provides a basic development of the mathematical concepts and skills essential for continued study in the HPA fields of study. Topics in the multivariable calculus are identical to those in MA 201. Topics in differential equations include the origins of differential equations, solving first order differential equations and second order differential equations with constant coefficients.

3.5 Credit Hours



"The more you sweat in peace, the less you bleed in war."

Chinese Proverb

MA 262 Applied Differential Equations

Both Terms—Prerequisite: MA 151-152 or MA 201

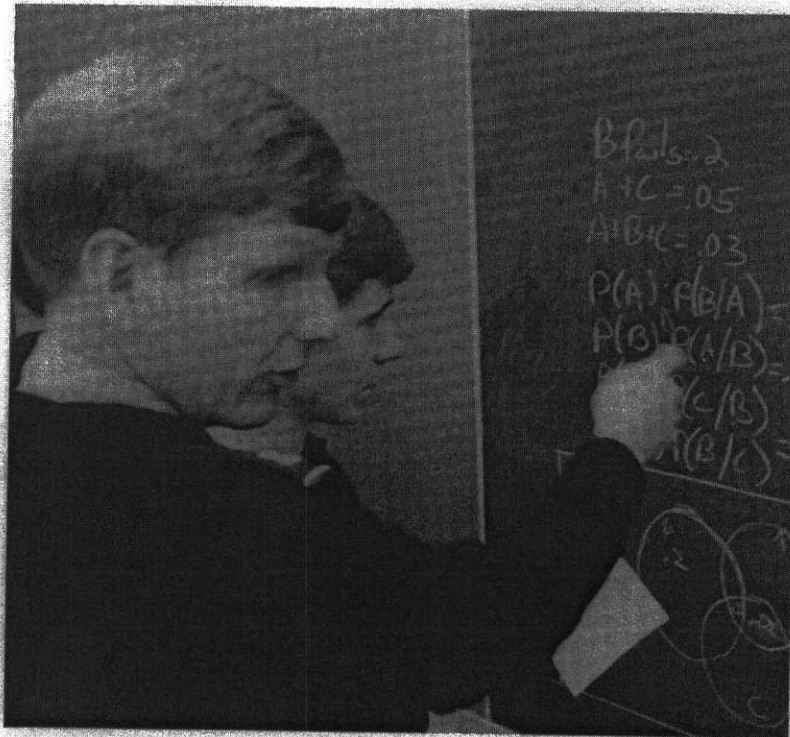
Designed to provide specifically a sound foundation in applied differential equations and techniques to students who are concentrating their studies in the Mathematics-Science-Engineering fields. The course is divided into five blocks of instruction: elementary solution techniques for

first and second order ordinary differential equations; the Cauchy-Euler equation and series solutions; Laplace Transforms; matrix methods and Laplace Transforms applied to systems of equations; the separation of variables technique applied to partial differential equations including the wave, heat, and Laplace's equations.

3.5 Credit Hours

48 total hrs

48 hrs



MA 301 Probability and Statistics

Both Terms—Prerequisite: MA 152 or MA 201

Provides a basic knowledge of probability theory and statistical inference for use in the physical and behavioral sciences as well as in engineering and other mathematics courses and includes fundamental studies in the theory and practical applications of random variables and their probability distributions. This leads into estimation of statistical population parameters, hypothesis testing, the goodness-of-fit test, and an introduction to regression analysis.

3 Credit Hours

Elective Courses

MA 371 Linear Algebra

Second Term—Prerequisite: MA 103-104 and MA 201 or equivalent

An extension of the matrix algebra studied in the core curriculum to include linear systems, numerical values and vectors, vector spaces, and linear transformations. Applications in economics, physics, biology, engineering, and computer science are examined.

3 Credit Hours

MA 386 Introduction to Numerical Analysis

First Term—Prerequisite: MA 387

The computer's capabilities and limitations in generating numerical solutions to mathematical problems will be analyzed critically. Numerical algorithms will be examined and their accuracy appraised. After a detailed study of error analysis and a review of programming on the hand held calculator and Fortran programming, the following topics will be studied: solutions of equations in one variable, the use of polynomials to approximate discrete data, curve fitting, and the approximation of continuous functions.

3 Credit Hours

MA 387 Advanced Calculus I

Second Term—Prerequisite: Completion of the first three semesters of the mathematics core curriculum or equivalent advanced program

A one semester course providing a rigorous foundation for the calculus of a single variable. The course is designed to introduce the student to the language and techniques of modern mathematics. Course coverage includes a treatment of the foundations of the real number system, a rigorous

development of differential and integral calculus, and an intensive study of sequences and series with special emphasis on power series.

3 Credit Hours

MA 391 Mathematical Modeling

Either Term—Prerequisites: MA 103-104 and MA 201 or equivalent

A study of the use of undergraduate mathematics to obtain a solution to realistic problems in areas such as economics, engineering, social sciences, and operations research. The course focuses on the development of mathematical models and the model building process. Cadets will learn to use computer software packages (such as MINITAB) in model fitting and empirical model building, and review FORTRAN programming for the work on simulation modeling. Calculus, differential equations, dimensional analysis, graphical analysis, and optimization are some of the mathematics employed in the model building process.

3 Credit Hours

MA 396 Numerical Methods for the Solution of Ordinary Differential Equations

Second Term—Prerequisites: EF 105 or equivalent; MA 201 or equivalent

The study and implementation of algorithms designed to approximate solutions to mathematical problems requiring differentiation, integration, or the solution of an initial-value or boundary-value problem involving an ordinary differential equation. After an introduction to error analysis and a review of FORTRAN programming, the cadet will use the computer to approximate solutions to the following problems: numerical differentiation and integration, initial-value problems for ordinary differential equations, and boundary-value problems for ordinary differential equations.

3 Credit Hours

MA 473 Intermediate Probability and Statistical Applications

Either Term—Prerequisite: Completion of the standard program or equivalent

An extension of the probability and statistical concepts studied in the core curriculum to include estimation

40 hrs

tion, hypothesis testing, regression analysis, analysis of variance, and design of experiments.

3 Credit Hours

MA 481 Linear Optimization

Either Term—Prerequisites:

MA 103-104 and MA 201 or equivalent

A study of optimal solutions to linear algebraic systems using the simplex method of linear programming. This includes an analysis of the dual problem, parametric programming and post optimal analysis. Additional topics such as graphs and the transportation problem, network models, and goal programming are introduced.

3 Credit Hours

MA 482 Abstract Algebra

First Term—Prerequisites:

Completion of the standard program or equivalent, and permission of Department Head

An introductory modern algebra course for cadets planning graduate work in mathematics or theoretical work in science or engineering. Groups, rings, integral domains, and fields are studied.

3 Credit Hours

MA 484 Partial Differential Equations

Second Term—Prerequisite:

MA 384 or MA 262

Devoted to the solution of partial differential equations and designed to follow MA 384 or MA 262. The course has applications in virtually all physical science fields and should be of interest to mathematics, science, and engineering concentrators. Several classic differential equations will be studied, to include the heat, the wave, the potential, and Bessel's equations. Techniques of solution will be emphasized to include separation of variables, Fourier series, Laplace transforms, and numerical methods.

3 Credit Hours

MA 485 Complex Analysis

Second Term—Prerequisite:

Completion of the standard program or equivalent, and permission of Department Head

Development of the classical theory providing a basis for the study of applications including contour inte-

grals, conformal mapping, and the solution of the Dirichlet and Neumann problems.

3 Credit Hours

MA 487 Advanced Calculus II

First Term—Prerequisite: MA 387

Continuation of MA 387. Provides a rigorous foundation in multivariable calculus. Course coverage includes the differentiability and integrability of functions of more than one variable, chain rule and Taylor's formula in more than one variable, implicit and inverse function theorems, extrema of functions, change of variables in an integral, and improper integrals.

3 Credit Hours

MA 488 Visiting Professor's Course

Either Term—Prerequisite: To Be Announced

A Visiting Professor of Mathematics will conduct a course on a topic to be announced.

3 Credit Hours

MA 489 Advanced Individual Study in Mathematics

Either Term—Prerequisite:

Permission of Head of Department

An intensive tutorial course or an

advanced individual project offered to a limited number of highly qualified cadets who have completed available mathematics elective courses. Course work is tailored to meet individual desires.

3 Credit Hours

MA 492 Topics in Discrete Mathematics and Algebra

Either Term—Prerequisite:

Permission of the Head of Department

Provides cadets the opportunity to study selected subjects in the finite structures of the mathematical sciences.

3 Credit Hours

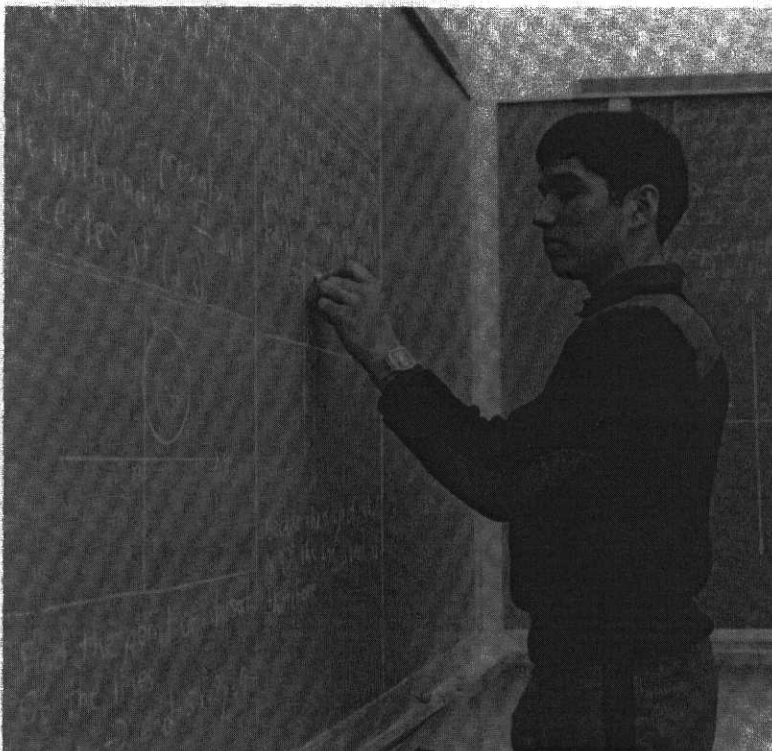
MA 493 Topics in Analysis

Second Term—Prerequisite:

Permission of the Head of Department

Provides cadets the opportunity to study selected subjects in the areas of real, complex, or numerical analysis.

3 Credit Hours



7 credits
 178 hrs acc. to
 Germaine

1.5
 1.5
 1.0
 1.0
 1.5
 1.5
 7

W. Point 1985-86



COL James L. Anderson, Professor and Master of the Sword, Department of Physical Education

Department of Physical Education

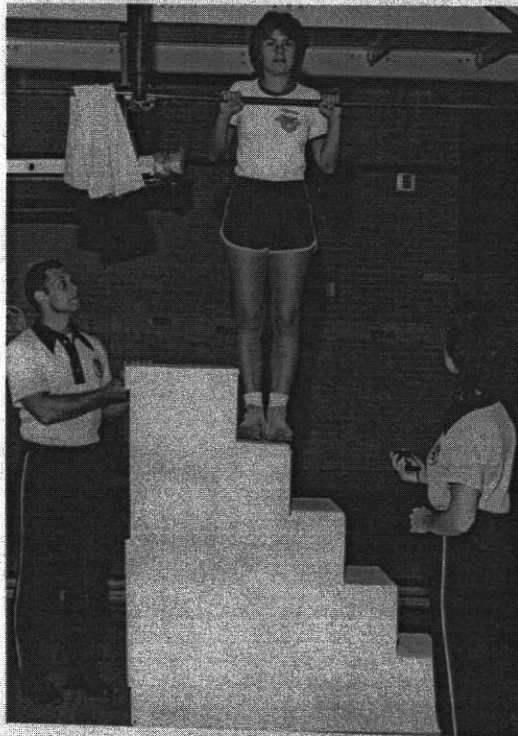
Every cadet takes seven credit hours in the comprehensive, four-year physical education program administered by the Department of Physical Education (DPE). The progression begins the first year with fundamentals of conditioning, combatives, swimming, and gymnastics. Carryover sports, activities cadets may engage in for the rest of their lives, receive progressively greater emphasis during upperclass years. Among such sports are golf, tennis, badminton, handball, bowling, ice skating, racquetball, strength

development, senior life saving, scuba, skiing, squash, volleyball, water safety instruction, and aerobics. Upperclass cadets also learn techniques of instruction and coaching, which provide additional leadership experience and help build confidence.

A DPE instructor is assigned to each cadet company as a guidance counselor. This counselor maintains an overall physical progress record on each cadet; is concerned with corrective assistance for posture deficiency, or weight control; and, where necessary, provides special programs for cadets having difficulty meeting minimum standards for courses or fitness tests.

The Sports Medicine staff handles athletic training injuries, reconditioning (special exercises for both injured and uninjured areas), posture, and weight management. They attempt to identify, prevent, and correct any disability that would detract from the cadet's physical performance.

Individual attention, team activity, and expert instruction rank the total physical education program at West Point among the country's best.



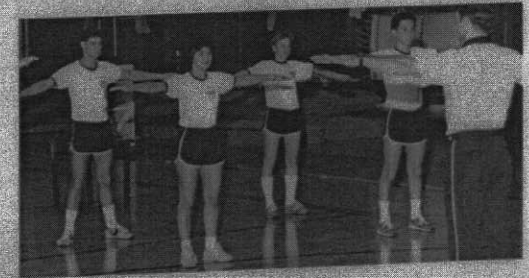
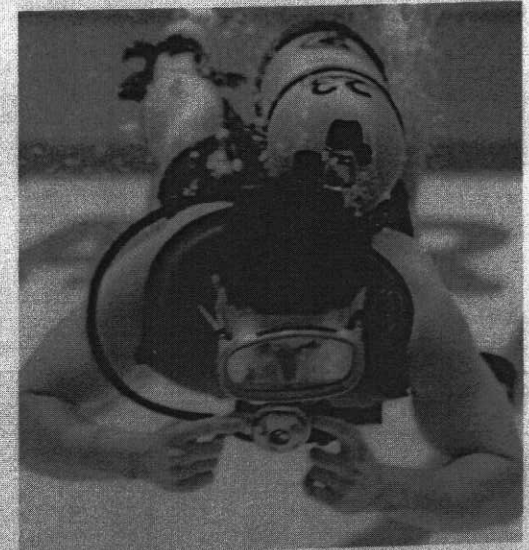
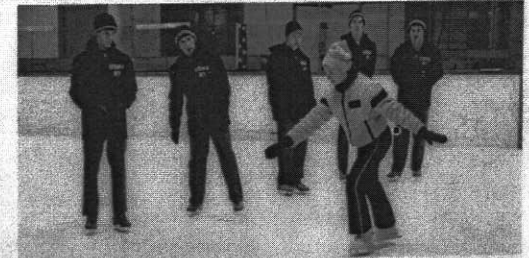
Standard Courses

PE 103/104 Foundations of Physical Fitness (Men—First and Second Term)

PE 105/106 Foundations of Physical Fitness (Women—First and Second Term)

Both Terms—Prerequisite: None
 Emphasizes the development of basic physical ability through instruction in two of four required subcourses each term. The subcourses are: boxing for men, self-defense for women, gymnastics, swimming, and the fundamentals of physical fitness.

1.5 Credit Hour each term



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PE 203/204 Development of Sports Skills (Men— First and Second Term)

PE 205/206 Development of Sports Skills (Women— First and Second Term)

*Both Terms—Prerequisites:
PE 103/104 or PE 105/106*

Provides basic instruction in a selection of two subcourses each term. The subcourses include a choice of numerous lifetime sports and athletic activities and two required advanced combatives (wrestling—for men, self-defense for women, and a co-educational course in close quarters combat).

1 Credit Hour each term

PE 303/304 Development of Sports Skills (Men— First and Second Term)

PE 305/306 Development of Sports Skills (Women— First and Second Term)

*Both Terms—Prerequisites:
PE 203/204 or PE 205/206*

Provides basic instruction in one lifetime sport or athletic activity subcourse (not previously taken) each term.

.5 Credit Hour each term

PE 403/404 Development of Sports Skills (Men— First and Second Term)

PE 405/406 Development of Sports Skills (Women— First and Second Term)

*Both Terms—Prerequisites:
PE 303/304 or PE 305/306*

Provides basic instruction in one lifetime sport or athletic activity subcourse (not previously taken) each term. Provides leadership experience through assignment as cadet-in-charge, coach, or official in mandatory intramural athletic programs.

.5 Credit Hour each term

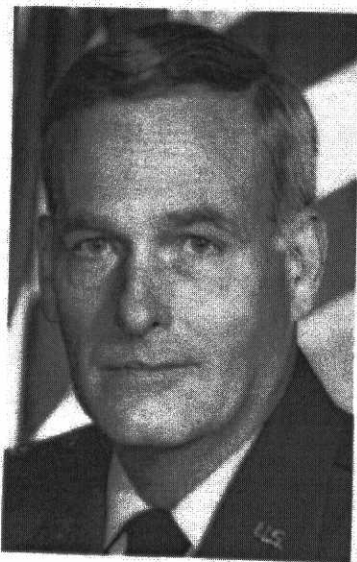
2 credits → 26 hrs in class (Arney)

W. Point 1985

Total credits
(not counting
any summer
activities)

1 st yr	5	cr hrs
2 nd	5	
3 rd	1.5	
4 th	0	
	<hr/>	
	11.5	

COL Victor T. Bullock, Director of the Department of Military Instruction



Department of Military Instruction

The Department of Military Instruction is responsible for the four-year military education and training of the Corps of Cadets. The academic year instruction and the summer training program complement and supplement each other in a logical and progressive sequence to achieve a smooth transition from civilian status through four cadet years to commissioning as a second lieutenant.

Fourth Class Military Instruction

Cadet Basic Training

Summer

This six-week program trains new cadets in basic military skills and prepares them for entry into the Corps of Cadets. Emphasis is placed on achieving Military Qualification Standards-I (MQS-I) in basic individual training, first aid, and M16 rifle marksmanship. Additional emphasis is placed on physical fitness, introduction to the Honor Code, military courtesy, and drill and ceremonies. The summer program lays the foundation for academic year instruction in military science and imbues the new cadets with discipline, personal pride and confidence, and a high sense of duty.

6 Weeks, Ungraded

MS 101 Introduction to the Military Profession

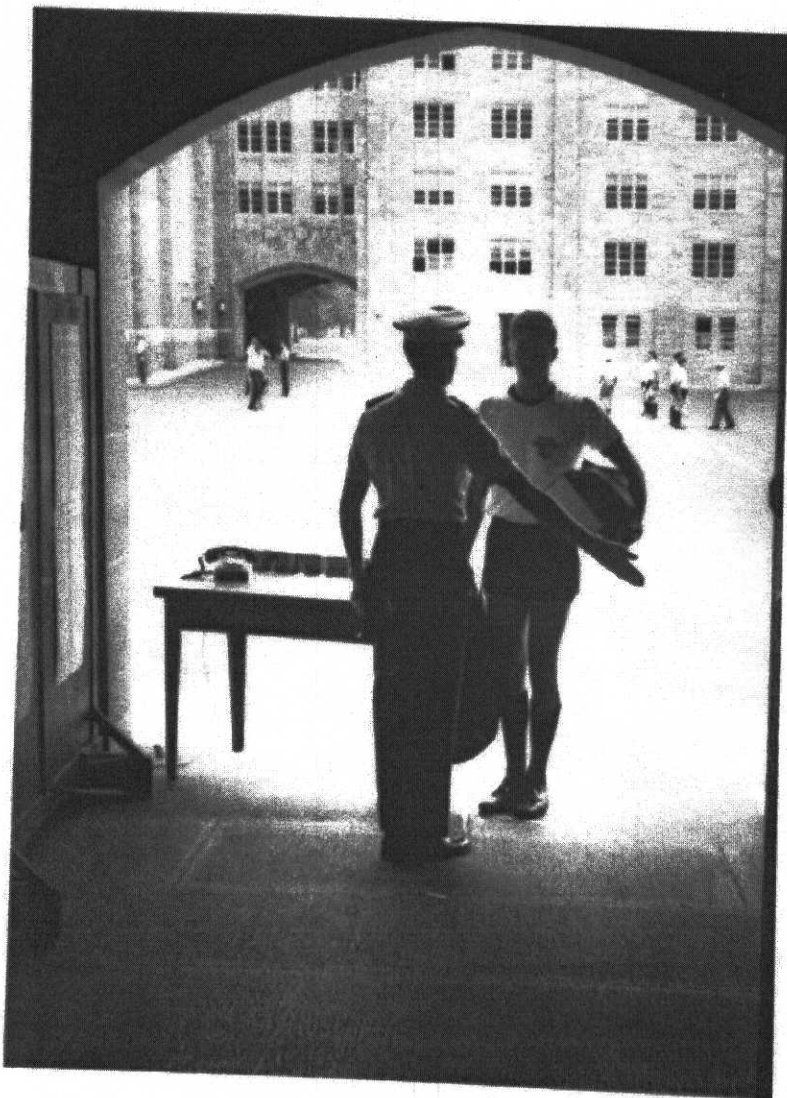
Introduces the student to the military profession, analyzes that profession from several academic perspectives, and explores the technical, ethical, and personal ramifications of service as an officer in the Regular Army of the United States. It highlights the concept of a profession in the American cultural context, tracing the historical development of the Regular Army Officer Corps into a true "profession." It examines traditional and modern issues which have exerted a significant impact upon the role and nature of the U.S. military establishment. The course also integrates a lecture/seminar series that examines the military profession and its attendant values and standards of behavior.

2.5 Credit Hours

Hrs in 4 yrs =

$$\frac{11.5}{2} \times 26$$

$$= 150 \text{ hrs}$$



"A leader is a man who has the ability to get other people to do what they don't want to do, and like it."

Harry S. Truman

MS 102 Map Reading and Small Unit Tactics

Furnishes the Fourth Class cadet with three essential categories of officer skills which are refined and supplemented in subsequent military science instruction: map reading, small unit tactical planning, and oral communications. MS 102 instruction incorporates practical exercises emphasizing skills which allow the cadet to view the modern battlefield through the eyes of an infantry platoon leader. Cadets then combine map reading skills, knowledge of enemy, terrain, and weather, and understanding of small unit tactics

and organization to plan and execute combat operations ranging from the platoon in the defense to the deliberate attack. Throughout MS 102, cadets render formal and informal oral presentations. Following MS 102, cadets apply their skills in Cadet Field Training, which serves as both laboratory and reinforcement for MS 102.

2.5 Credit Hours

Third Class Military Instruction

Third Class Cadet Field Training

Summer

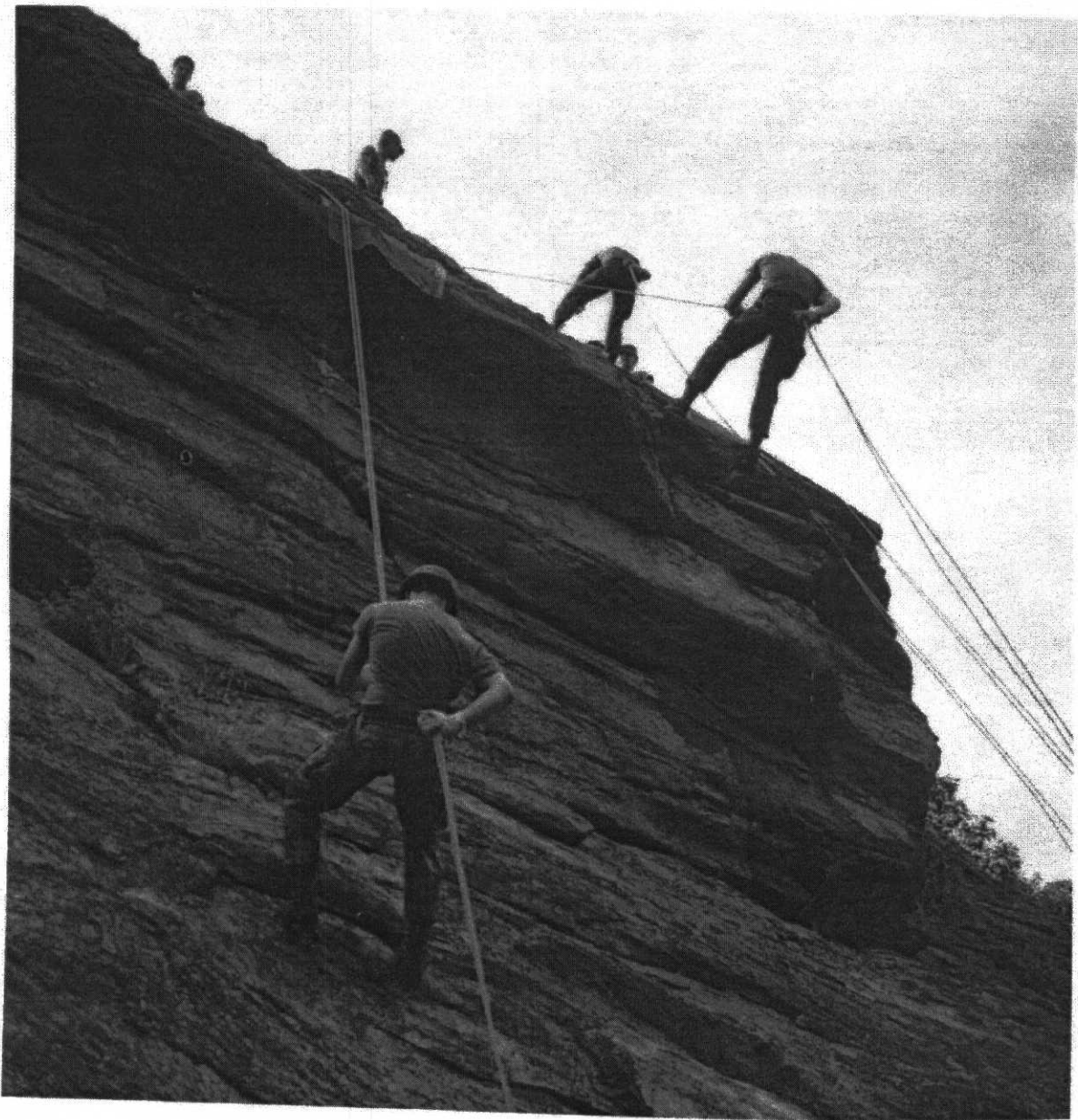
Cadet Field Training is an intensive 8-week field training program con-

ducted at Camp Buckner, various locations throughout the West Point military reservation, and Ft. Knox, Ky. It is designed to familiarize and/or provide training to each third class cadet in the basic and advanced soldier skills associated with combat and combat support arms; to allow each third class cadet to learn the duties of a combat/combat support arms platoon leader; and to further the leadership development of the first class cadre members assigned to the Camp Buckner detail.

8 Weeks, Ungraded



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MS 200 Combined Arms Operations

Provides the cadet with a basic understanding of the tactical employment of the company combined arms team and prepares the cadet for the Cadet Troop Leader Training (CTLT) Program or The Drill Cadet Program (DCP). MS 200 instruction is based on the Division 86 organization and Airland Battle doctrine concepts. It emphasizes the mission, organization and capabilities of the combat, combat support and combat service support elements organic to or in sup-

port of the company combined arms team. Instruction includes practical exercises in company team offensive and defensive operations. Discussion of platoon leader duties in both field and garrison situations is provided to help prepare cadets for summer training assignments with operational units. The role of the NCO and leadership development are emphasized throughout the course.

2.5 Credit Hours

EV 203 Terrain Analysis

(A course taught for the Department of Military Instruction by the Depart-

ment of Geography and Computer Science.) Provides the cadet with basic knowledge of the earth sciences and of the map and aerial-photo interpretation techniques necessary to prepare terrain analysis of military operational environments. Map and imagery interpretation techniques are applied to the study of diverse physical landscapes, culminating in the preparation of detailed area analysis of selected places and areas of the world.

2.5 Credit Hours



Second Class Military Instruction

Cadet Military Specialty Training

Cadet Troop Leader Training and Drill Cadet Program

Summer

Cadet Military Specialty Training consists of seven programs: Air Assault; Airborne; Flight; Northern Warfare; Jungle Warfare; Naval Special Warfare; and Survival, Evasion, Resistance, and Escape (SERE). Cadet Troop Leader Training gives cadets an opportunity to serve as platoon leaders in Regular Army units in the United States and overseas. The Drill Cadet Program gives cadets an opportunity to serve as noncommissioned officers at basic training installations throughout the United States.

7 Weeks, Ungraded

MS 300 Army Systems Management and Public Speaking

Describes the systems approach to organizations and relates this concept to the Army and its functional subsystems. The functional subsystems, personnel, training, supply, and maintenance are examined from the platoon leader level. The course also examines the Army's Total Force Structure and incorporates the impact of the functional subsystems on Army readiness. The importance of communications within an organization as well as the organization's subsystems are stressed. In this course, cadets also receive instruction in the basic skills of public speaking. This instruction is reinforced through the use of films of famous speeches, and through classroom exercises in which the cadets, by speaking to their classmates in various settings and situations, put into practice the techniques they have previously learned.

1.5 Credit Hours

First Class Military Instruction

Cadet Leader Training

Summer

First class cadets serve as instructors, counselors, commanders, and staff during Cadet Basic Training for the incoming class, in the field training of the third class, and as cadre and commanders for selected second class training programs.

8 Weeks, Ungraded

MI 410 Army Service Orientation

Assists the cadet in making the transition from cadet to lieutenant. This transition includes a series of briefings, lectures, panel discussions, and conferences designed to assist the cadet in selecting a branch within the Army and an initial assignment. It also provides information on matters such as finance, travel, and personal and professional affairs.

Ungraded