



Class of 2020 Academic Majors



A Primer to explore the Academic Majors offered at the United States Military Academy



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- Overview of your Curriculum – Page 3
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- Listing of Academic Majors – Page 5
- The Way Ahead (Timeline) Chart
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- This primer is designed to give you information so you can start exploring an academic major.
 - Just the beginning and should not be your only source to make a decision.
 - Has POC information for every major so you can reach out to that Department to start a conversation.



All Take These Courses

Core (16 courses)

1. Chemistry 1 (CH101)
2. Physics 1 (PH205)
3. Choice of one science:
 - Chemistry 2 (CH102),
 - Physics 2 (PH206), or
 - Biology (CH275)
4. Physical Geography (EV203)
5. Math Modeling (MA103)
6. Math Calculus (MA104)
7. Math Statistics (MA206)
8. IT, Computing, and Cyber 1 (IT105)
9. Depending on major one of:
 - IT/Cyber 2 (CY305),
 - Math Calculus (MA205),
 - Chemistry 2 (CH102),
 - Physics 2 (PH206), or
 - Biology (CH275)
10. History – American (HI105)
11. Composition (EN101)
12. Literature (EN102)
13. Philosophy and Ethical Reasoning (PY201)
14. Psychology for Leaders (PL100)
15. Economics (SS201)
16. Political Science (SS202)

Core Culture/Region Thread (4 courses)

17. Foreign Language 1 (LX203)
18. Foreign Language 2 (LX204)
19. History – Regional (HI108)
20. International Relations (SS307)

Core Mil Profession Thread (4 courses)

21. History – Mil Art (HI302)
22. Leadership (PL300)
23. Law (LW403)
24. Officership (MX400)

Other Required Courses

- 3 x Military Science (total 4.5 CH)
7 x Physical Education (total 5.5 CH)

Major Courses

Engineering Sequence (3 courses)

25. Engineering Sequence Course 1
26. Engineering Sequence Course 2
27. Engineering Sequence Course 3

Complementary Support (3 Courses)

28. Complementary Support Course 1
29. Complementary Support Course 2
30. Complementary Support Course 3

Major (10 courses)

31. Major course 1
32. Major course 2
33. Major course 3
34. Major course 4
35. Major course 5
36. Major course 6
37. Major course 7
38. Major course 8
39. Major course 9
40. Major course 10 – Integrative Exp.

CL20 selects a Major - Term 2

Class of 2020 Standard Course Scheduling

Major selected

PLEBE		YEARLING		COW		FIRSTIE	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
ENG COMP	ENG LIT	MAJ 1	MAJ 2	MAJ 3	MAJ 4	MAJ 5	MAJ 6
CHEM 1 — GEOG	PHYS 1 — CHEM 1	SCIENCE 2 — PHYS 1	GEOG — SCIENCE 2	MAJ 7	MAJ 8	MAJ 9	MAJ 10
MATH MOD	CALC	PHILOS — PROB/STAT	PROB/STAT — PHILOS	CES 1	CES 2	CES 3	CSC 1
IT — PSYCH	PSYCH — IT	POLY SCI — ECON	ECON — POLY SCI	LDRSHP — IR	IR — LDRSHP	CSC 2	CSC 3
AM HIST — REG HIST	REG HIST — AM HIST	LANG 1	LANG 2	MIL ART — IT/CYBER	IT/CYBER — MIL ART	MX400 — LAW	LAW — MX400
PE: COMB/BOX	MILMOVE	PERS FIT	SURV SWIM	COMBAPP	LIFE SPT	ARMY FIT	or ARMY FIT
MS: MS100	or MS100	MS200	or MS200	MS300	or MS300		

— : per math placement only

Yellow-shaded cells = slots to schedule courses in each Major including CSC & Science2

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Academic Credits	16.5-17.5	17.5	17	16-17	15+	15+	15+	15+
Total	18.5 – 19.5	18.0	17.5 – 19	16.5 - 19	15 - 17+	15 - 17+	15-17+	15-17+



List of Majors (LoM)

<u>Major¹</u>	<u>Dept.²</u>	<u>Major</u>	<u>Dept.</u>
<u>American Politics</u>	Sosh	<u>History: Military</u>	Hist
<u>Chemistry</u>	CLS	<u>Geography</u>	GENE
<u>Chemistry w/ ACS</u>	CLS	<u>Information Technology</u>	EECS
<u>Chemical Engineering</u>	CLS	<u>International Relations</u>	Sosh
<u>Civil Engineering</u>	CME	<u>Kinesiology</u>	DPE
<u>Comparative Politics</u>	Sosh	<u>Law/Legal Studies</u>	Law
<u>Computer Science</u>	EECS	<u>Life Science</u>	CLS
<u>Defense Strategic Studies</u>	DMI	<u>Mathematical Sciences</u>	Math
<u>Economics</u>	Sosh	<u>Mechanical Engineering</u>	CME
<u>Electrical Engineering</u>	EECS	<u>Management</u>	BSL
<u>English</u>	DEP	<u>Nuclear Engineering</u>	PANE
<u>Engineering Management</u>	Sys	<u>Operations Research</u>	Math
<u>Engineering Psychology</u>	BSL	<u>Philosophy</u>	DEP
<u>Environmental Engineering</u>	GENE	<u>Physics</u>	PANE
<u>Environmental Science</u>	GENE	<u>Psychology</u>	BSL
<u>Foreign Area Study</u>	DFL	<u>Sociology</u>	BSL
<u>Foreign Language</u>	DFL	<u>Space Science</u>	PANE
<u>Geo Info Science</u>	GENE	<u>Sys & Decision Sci</u>	Sys
<u>History: US</u>	Hist	<u>Systems Engineering</u>	Sys
<u>History: International</u>	Hist		



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Behavioral Sciences and Leadership (BSL)

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN ENGINEERING PSYCHOLOGY

WHAT IS ENGINEERING PSYCHOLOGY?

Engineering Psychology is a scientific discipline. Engineering psychologists are involved in specifying the capacities and limitations of the human operator (through experimental data collection) which informs the choice of a better system interaction design. The Engineering Psychologist is the interface between the engineers and the psychologists. Therefore you will be the one to ensure that humans and technology interact well. To maintain its status as the world's premier land power, The U.S. Army will require more sophisticated technology. Human centered design will be a crucial factor in the effectiveness of the equipment soldiers use to fight and win America's wars. Engineering psychologists make invaluable contributions in conducting theoretical and applied research, in designing human centered equipment and in introducing that equipment into an organization.

WHAT WILL I LEARN?

- You will learn and understand basic theories and processes of human behavior and cognition as applied to human centered design.
- You will learn and gain competence in applying experimental methods and statistical analyses.
- You will learn to apply knowledge of human cognition & behavior to the design of complex systems.
- You will learn to design and evaluate systems that optimize soldier performance.

SUMMER INTERNSHIPS & STUDY ABROAD

- Our cadets have participated in numerous internships with e.g. Northrop Grumman, John Deere, Mitre, Institute for Creative Technologies, Army Research Lab's Simulation Training Technology Center, & Huntington Ingalls
- Our cadets have participated in internships in Australia, Norway, California, Maryland, & Florida
- Our cadets have completed study abroad in a variety of countries e.g. Mexico, China, France, & Brazil

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN ENGINEERING PSYCHOLOGY

CORE CLASSES

PL390: Biological Psychology
PL386: Experimental Psychology
MA376: Applied Probability & Statistics
PL475: Human Computer Interaction
PL485: Human Factors Engineering

PL392: Cognitive Psychology
PL391: Sensation, Perception & Psychophysics
PL394: Anthropometrics & Biomechanics
PL488e: Colloquium in Engineering Psychology
PL490: Engineering Psychology in Design

COMPLEMENTARY SUPPORT COURSE CLUSTERS

Cadets will select one CSC group and take three courses in that cluster. The Red Book contains specific course requirements.

Networks & Cyber
Simulations & Modeling
Human Computer Interaction
Environmental / Sustainability Engineering
Law & Ethics
Aerospace Systems
Management & Industrial Organizations

Pre-Med
Industrial Organizations
Surface Transportation
Individual Differences
Systems Acquisition
Communications
Computer Systems

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN MANAGEMENT

WHY MANAGEMENT?

The Management major is a great option to prepare you for success both in the Army and beyond in government or business. The major provides you an understanding of the sources of sustainable competitive advantage and how organizations invest in future opportunities and capabilities. With a broad range of courses within Management, cadets can tailor the major to their interests through one of three tracks:

- *Business Management* offers cadets a diverse array of skills used by managers both in and out of the Army. The focus of this track is the skills business managers use to make decisions.
- *Social Enterprise* offers cadets a set of skills applicable to those interested in leading teams of diverse people and complex organizations.
- *Public Administration* gives cadets with interest in a future in local or national governments the skills crucial to those careers.

WHAT WILL I LEARN?

A universal truth of leadership and management in any organization—from platoons to Fortune 500 companies to city councils—is the need to manage limited resources. Whether these resources are money, time, or workers, leaders must know how to achieve unit goals within their resource constraints. In Management, you will learn:

- Organizational Financial Management, including managerial finance and accounting
- How to lead diverse, complex organizations from small teams to large, rapidly changing enterprises
- How business operations—including manufacturing, logistics, and distribution—are planned and executed
- Best practices in how organizations recruit, train, and reward their human capital
- The way to understand markets, customers, and how to reach them to meet our needs
- Managing internationally to create maximum value by understanding culture and opportunities
- Negotiation techniques that provide real results from the boardroom to the battlefield
- Setting, guiding, and achieving strategic goals to build long term excellence

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN MANAGEMENT

MANAGEMENT MAJOR CURRICULUM

MNG0 MANAGEMENT

MANAGEMENT MAJOR

REQUIRED COURSES

MG380	MARKETING
MG381	INTRODUCTION TO MANAGEMENT
MG382	HUMAN RESOURCES MANAGEMENT
MG395	FUNDAMENTALS OF ACCOUNTING
MG410	MANAGERIAL FINANCE
MG472	INTERNATIONAL MANAGEMENT
MG421	STRATEGIC MANAGEMENT

COMPLETE 1 OF 3 CONCENTRATIONS:

Cadets must choose either the “Business Management” Concentration, the “Social Enterprise” Concentration, or the “Public Administration” Concentration.

1. BUSINESS MANAGEMENT (MGM1)

Additional Required Courses

MG420	OPERATIONS MANAGEMENT
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And (Choose 2 of 4)

PL470	ENTREPRENEURIAL LEADERSHIP
MG379	LEADING TEAMS
PL479	LEADING ORGANIZATIONS THROUGH CHANGE
MG390	NEGOTIATION FOR LEADERS

OR

3. SOCIAL ENTERPRISE (MGS1)

Additional Required Courses(Choose 3 of 4)

MG379	LEADING TEAMS
PL479	LEADING ORGANIZATIONS THRU CHANGE
MG390	NEGOTIATION FOR LEADERS
PL470	ENTREPRENEURIAL LEADERSHIP

CADETS WILL ALSO SELECT TWO DEPTH OF DISCIPLINE COURSES

CADETS WILL ALSO CHOOSE A THREE-COURSE COMPLIMENTARY SUPPORT COURSE GROUPING

OR

2. PUBLIC ADMINISTRATION (MGP1)

Additional Required Courses (Choose 3 of 5)

MG379	LEADING TEAMS
PL479	LEADING ORGANIZATIONS THRU CHANGE
MG420	OPERATIONS MANAGEMENT
MG390	NEGOTIATION FOR LEADERS
PL470	ENTREPRENEURIAL LEADERSHIP

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN PSYCHOLOGY

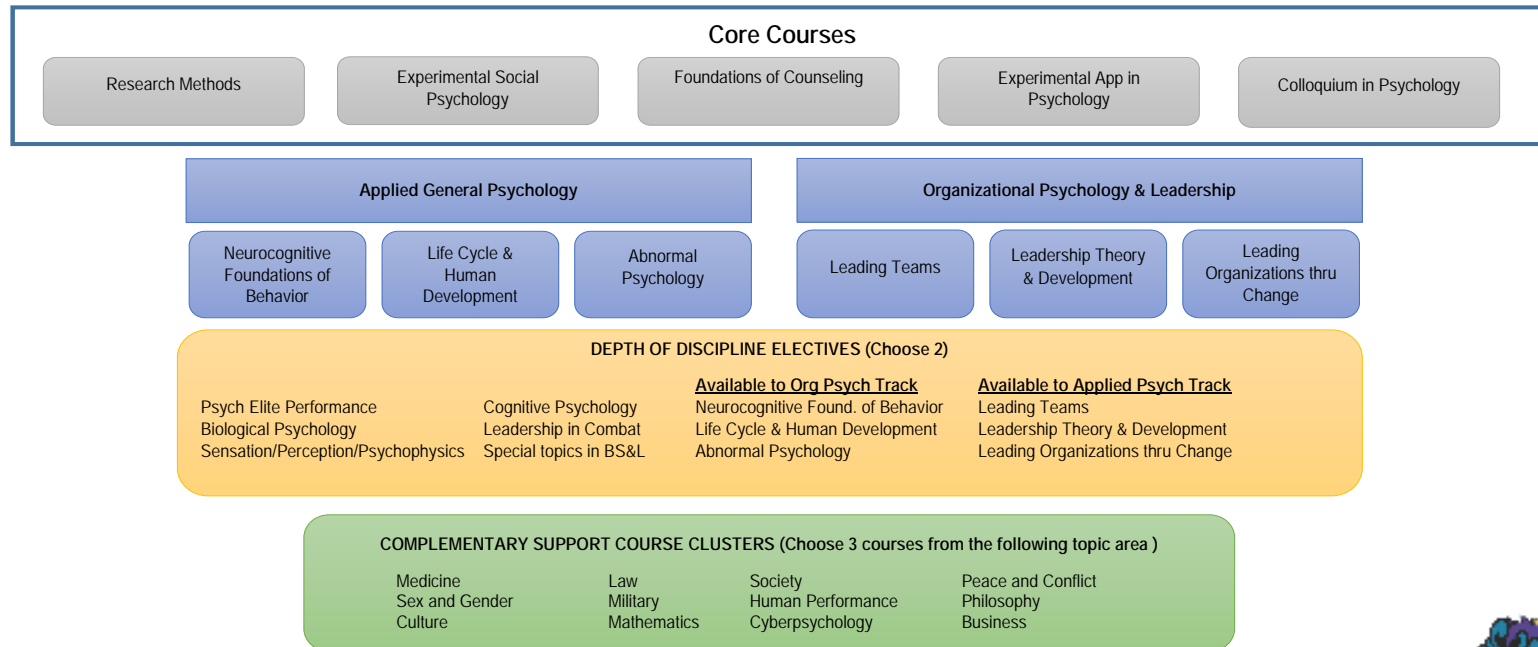
You can't forget that it is the men and women who populate the armed forces of the United States who are the decisive advantage, because you can't copy the human dimension" – GEN(R) Martin Dempsey

PSYCHOLOGY IS THE KEY TO THE HUMAN DIMENSION

Psychology is immensely applicable for future Army officers. You will gain skills and knowledge that allow you to better understand the people you will lead. You will apply the lessons learned in the major every day in a variety of settings. Make your life better, understand your world and the people in it – major in Psychology!

Psychology majors choose between two different tracks:

- **"Applied General Psychology"** is focused on applying knowledge of psychology to improve the development, performance, and well-being of individuals (soldiers).
- **"Organizational Psychology and Leadership"** is focused on applying knowledge of psychology to select and develop leaders, and improve the effectiveness of groups, teams, and organizations.



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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN PSYCHOLOGY

WHY PSYCHOLOGY?

- Psychology is Interdisciplinary - The study of psychology investigates human behavior, cognition, and emotion by analyzing the complex interactions between environmental, social, cultural, organizational, and biological influences.
- Psychology majors can be found in every sector of the professional world : in the military, industrial, retail, non-profit, consulting, academic, and research & development sectors.
- Organizational Psychology is ranked as the #1 fastest growing career fields in America by the US Department of Labor.
- As an Army leader you must understand and influence people as individuals, and their effectiveness as a unit. As a Psychology Major you will:
 - understand how to build effective teams
 - develop critical thinking and problem solving skills needed to be an adaptive leader
 - understand how to impact individual motivation, organizational culture, and personal/unit resiliency
 - understand the roots of prejudice, violence and aggression and how to reduce and resolve conflict
 - understand how to leverage diversity constructively to make units more effective
 - be able to manage difficult situations and high stress environments
 - develop the interpersonal and counseling skills required of leaders
 - understand interventions that can reduce distress in Soldiers and their families

SUMMER INTERNSHIPS

Summer Internships (AIADs) provide a 3-4 week opportunity to apply lessons learned from the major within various organizations. BS&L currently coordinates over 100 AIADs a year, across the United States and in various foreign countries. Some examples of organizations you could work with include the FBI, NSA, NASA, The Army Research Institute, Office of the Surgeon General, Fortune 500 Corporations, the Boy Scout Philmont Ranch and SeaBase High Adventure Camps, and the Military Child Education Coalition.

FOR MORE INFORMATION ABOUT MAJORING IN PSYCHOLOGY, CONTACT:

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Psychology Program website: <http://www.usma.edu/bsl/SitePages/Psychology.aspx>

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN SOCIOLOGY

WHY STUDY SOCIOLOGY

Sociology is the scientific study of society. Sociology is essential for understanding why people act the way they do, including individuals, groups, organizations, communities, and societies. Sociology will prepare Army officers to learn how to better lead increasingly diverse Army units as well as succeed in foreign cultures and environments. West Point sociology majors study:

- The core of the discipline
- Depth of discipline electives
- Complementary support courses that allow a cadet to pursue depth in an area of great interest

WHAT WILL I LEARN?

- Learn and understand the sociology of films to families to organizing principles for entire societies.
- Develop cross-cultural understanding to enhance leadership capabilities domestically and globally;
- Explore how understanding military families can make you a better leader;
- Find out how people become criminals and visit a maximum security prison in the Criminology course.
- Watch & sociologically analyze films such as *Barbershop*, *Elysium*, *Fight Club*, *Good Will Hunting* & many more;

WHAT DO WE KNOW?

- 27,000 sociology baccalaureate degrees are awarded each year in the U.S.;
- Graduates report that they apply their research methods skills once in the workplace;
- Graduates perform well because they understand social differences, cultures, & social hierarchies;
- Sociology is a scientific discipline;
- Sociology fosters critical and creative thinking.

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DEPARTMENT OF BEHAVIORAL SCIENCES & LEADERSHIP

MAJOR IN SOCIOLOGY

CORE CLASSES

PL363: Qualitative Social Research Methods
PL377: Social Inequality
PL482: Armed Forces and Society
PL393: Criminology

PL371: Introductory Sociology
PL384: Sociological Theory
PL488D: Sociology of Military Films
PL372: Marriage and the Family

DEPTH OF DISCIPLINE ELECTIVES

PL361: Quantitative Social Research Methods
SS381: Cultural Anthropology
PL383: Social Psychology

PL497: Seminar in Behavioral Sciences
PL498: Advanced Seminar in Sociology

COMPLEMENTARY SUPPORT COURSE CLUSTERS

Cadets will select one CSC group and take three courses in that cluster. The Red Book contains specific course requirements

Pre-medicine
Sociology of Networks and Cyber
Sociology of Organizational Leadership & Management
Sociology of Culture
Sociology of Moral Experience
Environmental Sociology
Historical Sociology
Sociology of Law

Sociology and Mathematics
Sociology of the Military
Sociology of Exercise & Sport
Sociology of Politics and Government
Sociology of Race & Ethnicity
Sociology of Sex/Gender
Sociology of Art & Film
Sociology of Peace & Conflict
Psychology

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Chemistry & Life Sciences (CLS)

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Required Courses

CH371 Introduction to Analytical Chemistry: The course teaches the fundamental concepts of analytical chemistry. Topics include acid-base equilibria, redox potentials, compleximetric titrimetry, separations, electrochemistry, and absorption spectroscopy. The course provides an overview of modern analytical techniques.

CH383/384 Organic Chemistry: This course is a study of the relationship between chemical structure and the physical and chemical properties of molecules. The relationships between free energy changes and equilibria, and between activation of energy and rate of reaction are developed. The mechanisms of reactions of various classes of organic compounds are studied.

CH471 Applications of Polymer Chemistry: This course is an introduction to modern polymer chemistry and engineering. It provides an introduction to macromolecules and their properties.

CH472 Inorganic Chemistry: This course features an in-depth study of main group and transition elements and their compounds, with emphasis on chemical bonding and both atomic and molecular structures.

CH473 Biochemistry: This course is an introduction to biochemical systems and concentrates on studying them from the molecular approach that emphasizes structure-function relationships, metabolism, and regulation of the systems and processes studied.

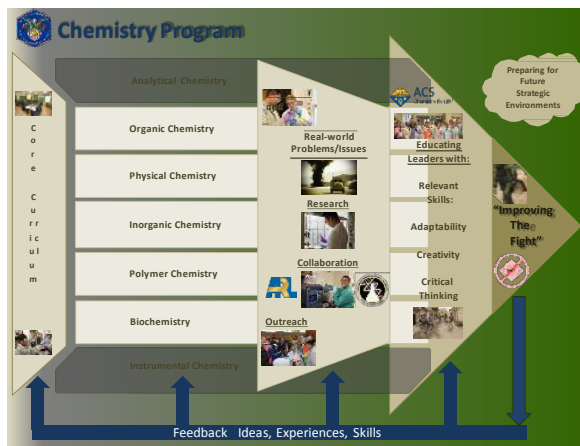
CH474 Instrumental Methods of Analysis: A laboratory course designed to develop proficiency in the selection and use of modern instrumental methods of chemical analysis.

CH481 Physical Chemistry I: The major areas of study in this course are chemical thermodynamics with a special focus on chemical equilibrium, chemical kinetics, and an introduction to intermolecular interactions.

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CH482 Physical Chemistry II: This course builds on the concepts covered in CH481 through a study of the quantum mechanics of atoms and molecules, their interaction with radiation, and statistical thermodynamics.

CH487 Advanced Chemistry Laboratory: This is an integrative laboratory experience in which students will further develop their knowledge and understanding of organic and inorganic syntheses, quantitative and qualitative instrumental analysis, and applications of physical chemistry principles to molecular structure and kinetics. They will carry out complex synthesis, Fourier transform and dispersive Raman spectroscopic analysis, laser spectroscopy, kinetics, polymer characterization, and molecular orbital calculations. Students will also have a seminar where they are participants in scientific presentations.



United States Military Academy

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Department of Chemistry And Life Science



ACS
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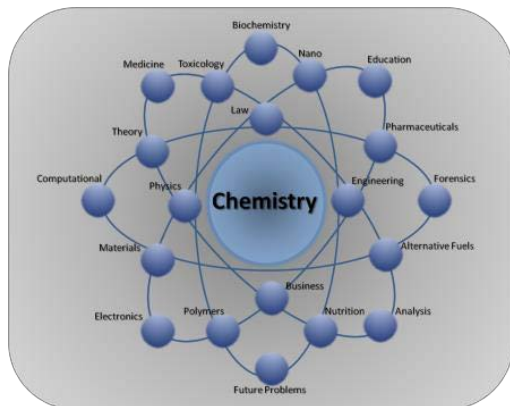
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Chemistry Major

Chemistry Major

Chemistry is the branch of sciences that studies the composition, structure, properties, changes and interactions of matter. Therefore, it is truly the central science and underpins much of the efforts of scientists and engineers to improve life for humankind.



Chemistry Program Goals

- Use information resources to gather, organize, and understand scientific material.
- Design and execute experiments to address a problem or question.
- Analyze and assess scientific data gathered in the laboratory.
- Effectively and clearly communicate scientific information in written and oral form to a variety of audiences.
- Understand the applications of chemistry in the Army and society.
- Recognize the relationship between the properties of a substance, its molecular structure, and its reactivity.
- Understand and apply the physical concepts of chemistry.



Image: 20th Sup. Cmd.



Chemistry Program 8TAPS

40 (42) Required courses:

26 Core, 3 Engineering Sequence, 11 (13)* Major

4th Class Year		3rd Class Year		2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term
Blank Slots filled with Core Courses: 16 Courses (Core) 4 Courses (Core Culture/Region Thread) 4 Courses (Military Professional Thread) 3 Courses (Complementary Support to Major)*						CH472 Inorganic Chem	CH487 Adv Chem Lab
		CH371 Analytical Chem	*CES1	*CES2	*CES3	CH471 Polymer Chem	
		CH383 Organic Chem 1	CH384 Organic Chem 2	CH481 Physical Chem 1	CH482 Physical Chem 2	Elective	
						CH474 Instrumental	CH473 Biochemistry
						CH489 Research	CH490 Research

*Elective can be selected from:
-Department of Chemistry and Life Science
-Any other Academic Department (pending approval of Chemistry Program)

*1 Complementary Support to Major is the elective

*ACS Certified Degree requires: CH489 and CH490
*Chemistry Degree with Honors requires:
-GPA ≥3.0 in 26 Core Courses and 3 Course Engineering Sequence
-GPA ≥3.5 in 13 Chemistry Program Courses

ACS Certified Degree Program

The Chemistry Major offers an American Chemical Society Certified Degree Program in addition to the baseline major. In order to receive an ACS Certified Degree a cadet must:

- Complete the following two courses
CH489 Individual Research I
CH490 Individual Research II

Honors Program

The Chemistry Major offers an honors program in addition to the baseline and ACS Certified degree. In order to receive a Chemistry Major with Honors a cadet must:

- Complete all of the ACS Certified Degree Program and:
 - Graduate with a QPA ≥3.0 in the 26 core academic program courses and 3 course engineering sequence
 - Graduate with a QPA >3.5 in the 13 chemistry program courses

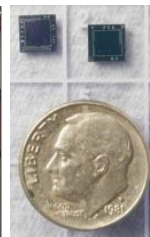


Image: Michael Merier/UAH

AIAD opportunities

There are many varied opportunities for cadets to participate in Advanced Individual Academic Development projects. Institutions that cadets have been able to work with are:

- Army Research Laboratories (ARL), Adelphi, MD
- Edgewood Chemical and Biological Command, (ECBC), MD
- PEO-Ammo, Picatinny Arsenal, NJ
- Walter Reed Army Medical Center, MD
- The Mint, West Point, NY
- USDA
- Many Others



Image: uam.es

Image: exponent.com

Image: 20th Sup. Cmd.



Image: Charles Dharapak

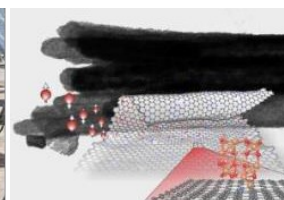


Image: Umea Universitet

CH457 Microbiology: Covers prokaryotes, viruses and fungus. It emphasizes military diseases and biowarfare/terrorism agents.

CH473 Biochemistry: covers biochemical systems and emphasizes structure-function relationships, metabolism, and regulation.



CH479 Methods and Applications of Biotechnology: reinforces the life science courses by studying laboratory and practical applications of biotechnology. This the capstone course in the Life Science program.

ELECTIVE COURSES (CHOOSE TWO):

CH362 Mass and Energy Balances: Introduction to chemical engineering problem solving.

CH371 Introduction to Analytical Chemistry: The course provides an overview of modern analytical techniques such as various methods of spectroscopy.

CH460 Human Anatomy: A comprehensive, introductory regional approach to human anatomy enabling her/him to understand the anatomical basis of combat medical care.

CH474 Instrumental Methods of Analysis:

A laboratory course in the selection and use of modern instrumental methods of chemical analysis.



CH471 Applications of Polymer Chemistry: Introduction to modern polymer chemistry and engineering.

EV471 Ecology: examines ecological principles and the relationship between an organism and its ecosystem.



CH472 Inorganic Chemistry: In-depth study of main group and transition elements.

CH481 Physical Chemistry I: Concentrates on chemical thermodynamics with a focus on equilibrium and kinetics.

CH489/490 Individual Research: Cadets commit to both CH489 and CH490 while working with a faculty advisor.

KN355 Functional Anatomy: A study of human anatomy and causal relationships between skeletal muscles and structures and the science of human movement.

PH365 Modern Physics: Introduction to basic concepts of quantum mechanics, atomic, solid state, and nuclear physics.

PH374 Medical Radiation Physics: Application of physics to medicine and radiology.

PL390 Biological Psychology: covers the physiological and anatomical structures and processes that underlie human

For more information:

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Department of Chemistry and Life Science AY 2016-2017



Life Science Major

"Power your future"

Life Science Major

Life Science is a branch of the sciences that studies the structure and processes of living organisms. Four unifying principles form the foundation of Life Science: cell theory, evolution, genetics and homeostasis.

Military Applications of the Life Sciences. The most important “system” in the Army is the human soldier. Because the soldier is a biological system, life science, biotechnology, and medicine offer unique potential for enhancing the performance of the most complex, critical, and costly of the Army’s systems. Pursuing a career in life science can be immensely exciting, rewarding, and can contribute greatly to the defense and advancement of our nation. Studying life science encourages professionals to ask questions, make observations, evaluate evidence, and solve important complex problems. Although many life scientists are primarily involved in research and development, and work in the laboratory or field, you may decide you want to work in another area of the sciences, such as management or administration. In the Army, many opportunities are available within many branches for life scientists to apply their technical expertise.



Robotics Surgery Training

The Life Science Major gives cadets a basic understanding of analytical and organic chemistry and biology. The major focuses on broader understanding of biology and biotechnology.

The Program Goals

- Understand and apply the Scientific Method.
- Analyze and present scientific information.
- Understand the basic principles of life science and chemistry, and their applications to the Army and Society.
- Understand and apply basic instrumental methods.
- Understand the structure and functions of biomolecules.
- Understand eukaryotic and prokaryotic cells.
- Understand bioenergetics and metabolism.
- Understand the structure-function relationships at all levels of organization of living organisms.
- Understand evolutionary biology and its importance.
- Understand ecology (biotic and abiotic).
- Understand the fundamental principles of heredity.

A Life Science Major must complete 27 core courses and one of the engineering sequences. The Life Science Major requires 11 courses (9 required and 2 electives) for a total of 40 academic courses.

Nine courses are required:

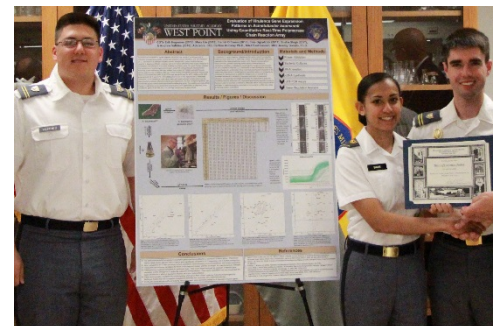
CH375 Introduction to Biology
 CH383 Organic Chemistry I
 CH384 Organic Chemistry II
 CH385 Introduction to Cell Biology
 CH387 Human Physiology
 CH388 Genetics
 CH457 Microbiology
 CH473 Biochemistry
 CH479 Methods & Applications of Biotechnology

Two courses are chosen from the following:

CH362 Mass and Energy Balances
 CH371 Introduction to Analytical Chemistry
 CH460 Human Anatomy
 CH471 Applications of Polymer Chemistry
 CH472 Inorganic Chemistry
 CH474 Instrumental Methods of Analysis
 CH481 Physical Chemistry I
 KN355 Functional Anatomy
 PH365 Modern Physics
 PH374 Medical Radiation Physics
 PL390 Biological Psychology
 EV471 Ecology

HONORS PROGRAM: Cadets must:

- 1) Complete CH489/490 Individual Research I & II
- 2) Graduate with a QPA in the 30 core academic program courses >3.0
- 3) Graduate with a QPA in the 11 elective program courses >3.5



REQUIRED COURSES:

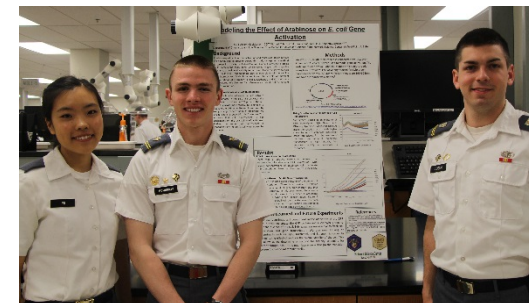
CH375 Introduction to Biology: covers fundamental concepts of biology: evolution, cells, ecology, heredity, and the scientific method.

CH383/384 Organic Chemistry: is a study of the relationship between chemical structure and the physical and chemical properties of molecules.

CH385 Introduction to Cell Biology: covers the structure and function of cells, biomolecules, the cell cycle, cell-to-cell signaling, and the cytoskeleton.

CH387 Human Physiology: covers the interrelationships between major organs and systems of the body. And homeostatic reflex mechanisms of organ systems.

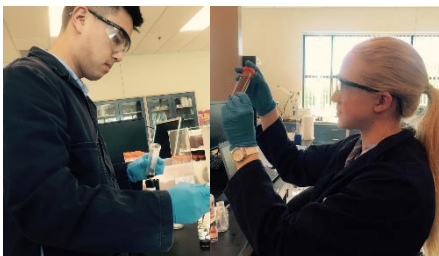
CH388 Genetics: covers the principles of genetics and develops an ability to solve problems involving heredity.



Chemical Engineering Program at West Point



The Chemical Engineering Program is accredited by the Engineering Accreditation Commission of ABET.



CDTs Liu, '16, and Turner, '18,
AIAD at REG



AIAD and Research on
Thermite

Chemical Engineering

Chemical engineers deal with the behavior of chemicals and energy. They design, operate, maintain, and troubleshoot processes that convert raw materials into useful products, or that convert one type of chemical product into another. **Chemical engineers** employ mathematics, chemistry, physics, biology, and engineering knowledge to solve technical problems.

Chemical engineers are responsible for design and control of large-scale chemical manufacturing plants for the production of basic chemicals, plastics, and fibers. **Chemical engineers** are also involved in many other diverse, but related, areas. Examples include (but are not limited to) food and fertilizer production, synthesis of electronic materials (polymers, ceramics, and semiconductors, for example), as well as biochemicals and pharmaceuticals. A technical degree in chemical engineering, along with the leadership skills you acquire as a military officer will lead you to become highly marketable after your military career.

Our goal is to develop cadets with a firm foundation in the fundamentals of engineering, physical sciences, investigative techniques, and problem solving skills. We achieve this goal through a rigorous academic program, small classes, and a robust laboratory program. Typical classes will generally have 8-16 cadets, always emphasize cadet preparation, and focus on problem solving.

The department has fully-supported modern computational tools and analytical instruments dedicated to cadet research. Cadets may pursue summer AIAD opportunities at various DoD and governmental laboratories. Cadets can also join our very active student chapter of the America Institute of Chemical Engineers (AIChE).



CH459 in the Unit Operations Lab



CH363 at Bayway Refinery



ChemE Club's New Fermentor

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Choose 3 Electives!

Materials Engineering

MC364 Mechanics of Materials
MC380 Engineering Materials
Open Engineering Elective

Industrial Engineering

SE301 Foundations of Eng.
Design & Systems Management
EM411 Project Management
EM420 Production Ops Mngmnt

Decision Analysis

SE301 Foundations of Eng.
Design & Systems Management
EM481 Systems Simulation
SM484 System Dynamic Sim

Advanced Control Systems

EE360 Digital Computer Logic
SM484 System Dynamic Sim
XE475 Mechatronics

Energy Conversion Systems

EE377 Electrical Power Gen
ME472 Energy Conversion Sys
ME480 Heat Transfer

Power Systems

MC306 Dynamics
ME491 Mechanical Power Plants
EE377 Electrical Power Gen

Nuclear Energy

NE300 Fund of Nuclear Engr
NE350 Radiological Engr Design
NE450 Nuclear Weapons Effects

CH290/389/390/489/490

Research courses available with
advisor approval.

Chemical Engineering

For more information visit the USMA Chemical Engineering website:

<https://collab.westpoint.edu/chem/CHEMENG/MainPage/ChEng.html>

15 Required Courses

Mass and Energy Balances (CH362):

Introduction to chemical engineering calculations.

Vector Calculus and Introduction to Partial Differential Equations (MA366):

Mathematical techniques for the study of chemical engineering electives.

Organic Chemistry I (CH383):

Introduction to reaction mechanisms and structure-function relationships in organic molecules.

Fundamentals of Electrical Engineering (EE301):

Introduces electrical circuit theory and analysis.

Thermal-Fluid Systems I and II (MC311 & MC312):

Integrated study of thermodynamics and fluid systems.

Chemical Reaction Engineering (CH364):

Teaches selection, design, and operation of chemical reactors.

Dynamic Modeling and Control (XE472):

Introduction to dynamic modeling and control of engineering linear systems.

Fundamentals of Engineering Mechanics and Design (MC300):

Study of engineering structures such as trusses, frames, and vessels.

Chemical Engineering Thermodynamics (CH365):

Expands on the specific thermodynamic properties of chemical reactions.

Chemical Engineering Laboratory (CH459):

Provides laboratory experience in operating large chemical processes.

Heat and Mass Transfer (CH485):

Introduces the mathematical modeling of heat and mass movement.

Chemical Engineering Process Design (CH402):

Introduction to the concept of chemical processes and design.

Chemical Engineering Seminar (CH400):

Helps cadets prepare for the FE Exam and the practice of chemical engineering.

**The Fundamentals of Engineering Exam (FEE) is a program
requirement for all Chemical Engineering majors.**



AIAD Opportunities

Bio-electrochemical and Systems
Biology Research at ARL

Synthetic Biomaterials Research at
ARL

Check on Hopper 2: Color Check
Process Development Uniformed
Color Company

Chemical Process Engineering in
Polymer Science - Southern
Polymer

Technology and Automation in
Support of Sales at Southern
Polymer

Biosensor Development with
USCOE

Waste to Energy – Rotary Kiln Gas
Technology

Improvised Armaments

Development of Flame Retardant
Compounds UL 5V

Value Stream Management –
Arden Processes

Renewable Energy Group Heating
Oil Project

Renewable Energy Group CEO
Shadow/Aide de Camp

Evaluation of FEM HMX in LX-14
Explosive Composition

PEO AMMO - Ammunition Facility
Production Modernization

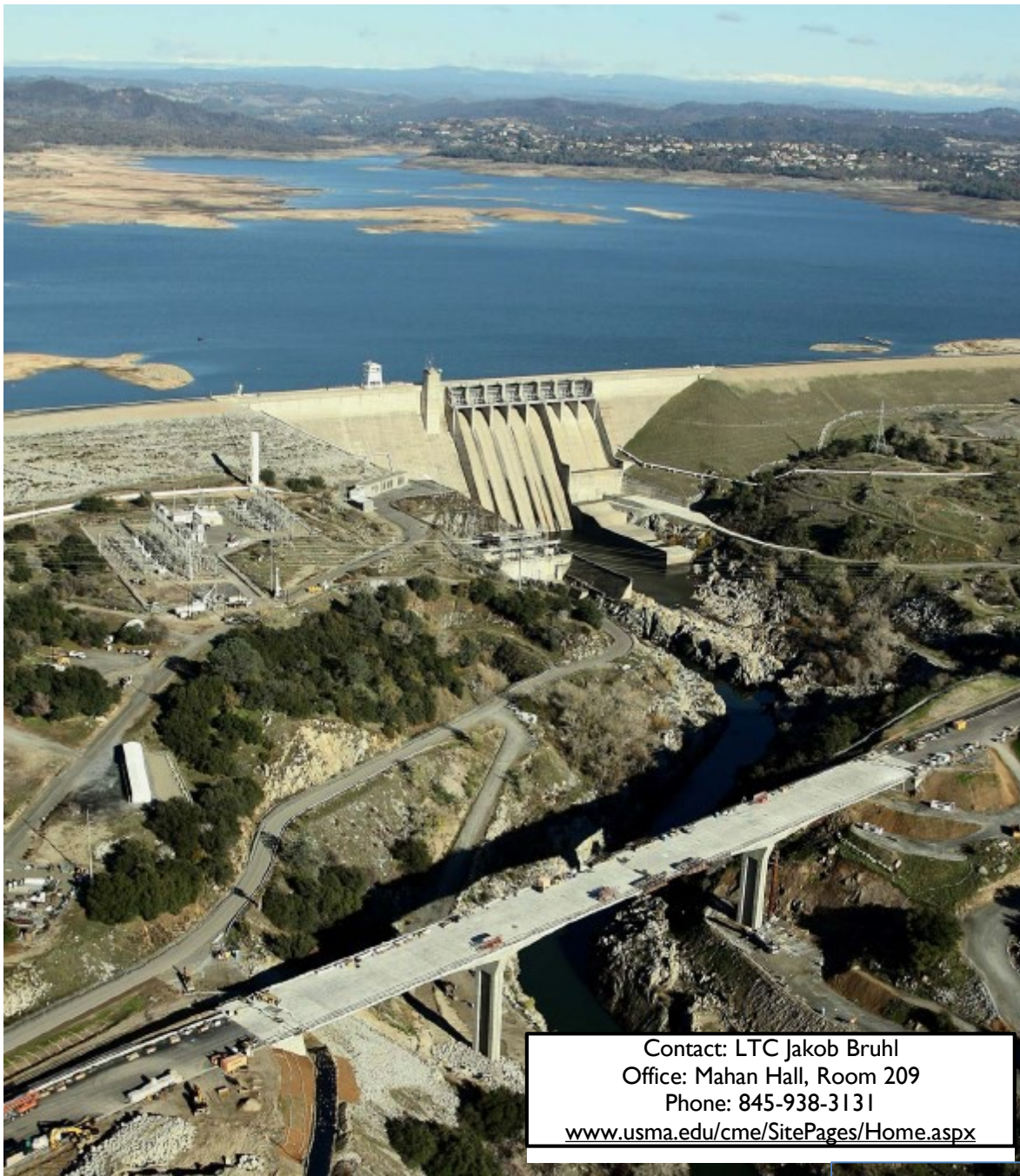
Energy Industry Ops, Bernt GmbH



UNITED STATES MILITARY ACADEMY
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Civil & Mechanical Engineering (CME)


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Contact: LTC Jakob Bruhl
Office: Mahan Hall, Room 209
Phone: 845-938-3131

www.usma.edu/cme/SitePages/Home.aspx


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CIVIL ENGINEERING



U.S. News and World Report:
Nation's #2 Program for 2015







WHAT IS CIVIL ENGINEERING?

Civil Engineering is one of the oldest professions. Civil Engineers design, construct, and maintain the critical infrastructure of modern life. Roads, bridges, buildings, tunnels, dams, water treatment systems, waste treatment systems, railroads, airports, docks, harbors, irrigation projects, canals, and offshore structures are examples of civil engineering "products."

Civil Engineers work for private firms and public agencies, teach at universities, and conduct research in laboratories — yet the goal is the same: to provide safe, serviceable, efficient structures and facilities for society. Along the way, Civil Engineers meet the sustainability challenges of pollution, deteriorating facilities, traffic congestion, energy needs, floods, earthquakes, urban development, environmental preservation, and community planning.

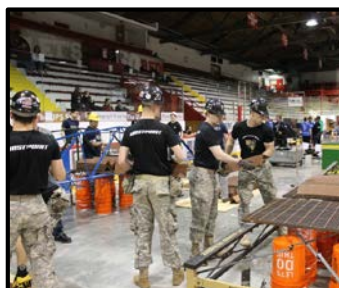
Civil Engineers also become the executives of firms and organizations responsible for the nation's infrastructure and engineering modernization. As such, they are leaders and managers with legitimate expertise in the technology field they manage, a key matchup too often neglected in some businesses, industries, and government enterprises.

Civil Engineers belong to a profession as old as civilization yet they employ skills ranging from practical, common sense problem solving to the most current techniques of computer analysis and scientific application. Civil construction materials include rock and soil found on site, traditional wood and masonry, modern metal alloys, concrete, composites and plastics.

Civil Engineers need a broad educational base in the physical and social sciences as well as highly developed scientific and practical engineering skills. The field embraces seven primary sub-disciplines, which are typically introduced at the undergraduate level and may be pursued in greater depth in graduate school:

- Structural Engineering
- Geotechnical Engineering
- Hydraulic/Water Resources Engineering
- Environmental Engineering
- Construction Engineering
- Infrastructure Engineering
- Transportation Engineering

Studying Civil Engineering is excellent preparation for service in any branch of the Army and the best path for those interested in becoming Engineers. Engineer officer assignments require expertise in combat engineering, facilities engineering, and construction management. A typical career begins with duty as an engineer platoon leader, provides opportunities for advanced civil and military schooling, and proceeds to higher levels of responsibility. Positions include command of engineer units from company to brigade level, staff duty at all levels of the Army, instructing at USMA or other schools, command of a USACE Engineer District, and many other possibilities!!!



CLASS OF 2020, CIVIL ENGINEERING MAJOR (CVN0)

Term 18-1	Term 18-2	Term 19-1	Term 19-2	Term 20-1	Term 20-2
MC 300 (L) Mechanics and Design	MC 364 (L) Mechanics of Materials	MC 311 (L) Thermal Fluid Systems I	CE 371 (R) Soil Mechanics	EE 301 (R) or IT 305	CE 401 CE Professional Practice
		CE 350 Intro to CE Infrastructure	CE 380 (R) Hydrology and Hydraulic Design	CE 493 Design of CE Systems	CE 494 Design of CE Systems
	CE 403 Structural Analysis		CE 450 Construction Management	CE 483 (R) Design of Concrete Structures	Elective 2²
Math and Basic Science Elective¹			CE 404 (L) Design of Steel Structures	Elective 1²	

 CE Core Sequence Courses
 CE Major Courses (includes Core Sequence Courses)
 Electives



1. Math and Basic Science Elective: Must take one of the following courses:

	<u>Pre-requisites</u>	<u>Terms</u>
CH 371 Intro to Analytical Chemistry	CH102/152	1
MA 364 Engineering Math	MA205/255	1,2
MA 371 Linear Algebra	MA205/256	1,2
MA 376 Applied Statistics	MA206	1
PH 365 Modern Physics	PH202/252	1
SE 375 Statistics for Engineers	MA206	1,2

2. Civil Engineering Electives (must take three total electives from the lists below)

<u>Field Electives (Must take 2, can take 3)</u>	<u>Pre-requisites (*Co-requisite)</u>	<u>Terms</u>
CE 472 Adv. Soil Mechanics and Foundation Design	MC300, CE371	1
CE 489 Advanced Individual Study in CE	Instructor Approval	TBA
CE 490 Special Topics in Civil Engineering	Instructor Approval	1,2
CE 491 Advanced Structural Analysis	CE403	2
CE 495 Transportation Engineering	CE371, CE380, CE390	2
EV 385 Intro to Environmental Engineering (R)	PH202/252*, CH102/152*, MA205/255	2
EV 394 Hydrogeology (R)	EV203	1
EV 401 Environmental Systems Analysis	MC311*, XS391	2
EV 481 Water Resources Management	None	1
MC 478 Structural Mechanics	MC364	1
MC 306 Dynamics	MC300*, PH203	1,2
ME 370 Computer Aided Design (L)	MA205/255	1
ME 472 Energy Conversion Systems	ME312, EE301	2
ME 486 Vibration Engineering	MC364, MA364, ME306	2

<u>Engineering Electives (Can take 1 or 0)</u>	<u>Pre-requisites (*Co-requisite)</u>	<u>Terms</u>
CE 399 Field Engineering Readiness Lab - USAFA	MC300	AIAD
CE 489A Advanced Individual Study in CE	CE489*	TBA
EV 301 Environmental Science	EV203	1,2
EV 380 Principles of Surveying (L)	None	1
EV 388A Physical Geology	EV203	1
EV 398 Geographic Information Systems	EV203	1
MC 380 Engineering Materials (L)	CH364, CH102/152, PH204/254	1,2
XE 495 Topics: Advanced Technology	MA205/255, PH202/252	2
XS 391 Environmental Chemistry	CH102/152, MA104	1

Course Notes:

(R): denotes R,S,T,U lab
(L): double blocked class

Shading Notes:

Blue: CE Core Sequence Courses
Gold: CE Major Courses (includes Core Sequence Courses)
Green: Electives

USMA/ORD requirements:

PL300 & EN302 must be taken
Cow year and LW403 must be taken Firstie year

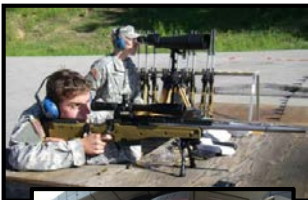
Capstones

Capstone projects are the culmination of the Mechanical Engineering experience. Cadets design, model, build, and test their own products. Recurring projects include the numerous UAS designs, weapon modifications, and Soldier Design challenge.



AIADs

Cadets with a Mechanical Engineering background are in high demand by industry. AIADs provide experience working in robotics, computer simulations, aircraft, and weapons effects sponsored by agencies such as NASA, General Dynamics, Boeing, Sikorsky, and MIT Lincoln Labs.



What is Mechanical Engineering?

Mechanical Engineering is one of the broadest of all engineering disciplines, traditionally encompassing three primary subfields: energy, mechanisms and machinery, and manufacturing. Although its primary purpose could be summarized as "**creating and improving machines and ways to use energy to benefit mankind**," this fundamental task engages the mechanical engineer in a vast array of fascinating specialty areas.

Why Major in Mechanical Engineering?

- 1. Mechanical Engineering teaches you how things work.** This will be of enormous benefit to you as an Army officer in an increasingly technical world. Almost everything used in the military has involved mechanical engineering at all or most stages of its design and production.
- 2. Mechanical Engineering teaches you how to think.** Mechanical engineers learn how to describe, analyze, and solve problems using mathematics and systematic problem-solving techniques. Learning to think logically and to work systematically contributes to an ability to address new and difficult problems with confidence.
- 3. Mechanical Engineering teaches you how to oversee complicated and interdisciplinary projects.** Because a mechanical engineering education teaches you how things work and how to logically solve new problems, mechanical engineers are in very high demand as project managers.
- 4. Mechanical Engineering provides an opportunity for solving challenging, real-life problems for the benefit of the Army and society.** Engineers are explorers and inventors. They push technological frontiers to improve the quality of life for our nation's citizens today and for the future. The Army provides many postgraduate educational and research opportunities at top universities and research laboratories for its best engineering minds.
- 5. Mechanical Engineering allows you to keep your options open.** Mechanical engineers possess excellent reasoning skills and understand their world. These qualities make mechanical engineers competitive for most graduate programs of study in engineering as well as law, business, and medicine.

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MECHANICAL ENGINEERING



NATURAL & EXPERIMENTAL PHILOSOPHY

MECHANICAL ENGINEERING



1812 200 YEARS 2012

WEST POINT, NEW YORK

United States Military Academy



U.S. News and World Report
Nations #4 Ranked ME Program for 2016

DESIGN DEVICES AND SYSTEMS TO IMPROVE PEOPLE'S LIVES

EXPANSIVE CURRICULUM!!!

CHOOSE THE COMBINATION OF ELECTIVES THAT IS RIGHT FOR YOU!!

- BUILD YOUR DEPTH OF KNOWLEDGE IN A TOPIC, OR...
- BENEFIT FROM OUR BREADTH OF MECHANICAL ENGINEERING OFFERINGS!

"MIX & MATCH" FROM THE FOLLOWING TOPICS:

AERONAUTICAL

LEARN THE SCIENCE AND THEORY BEHIND AIRCRAFT FLIGHT. REINFORCE IN-CLASS LESSONS WITH FLIGHT LABS IN ARMY AIRCRAFT

AUTOMOTIVE

DESIGN, BUILD, AND TEST CARS, TRUCKS, TANKS AND UGVs. GAIN AN IN-DEPTH KNOWLEDGE OF AUTOMOTIVE POWER AND TRANSMISSION SYSTEMS.

BIOMECHANICS

EXPLORE THE INTERACTIONS BETWEEN THE HUMAN BODY AND MECHANICAL SYSTEMS. LEARN HOW THESE SYSTEMS CAN BE USED TO BETTER SERVE HUMANITY.

ENGINEERING MANAGEMENT

LEAD THE DEVELOPMENT AND IMPLEMENTATION OF MAJOR ENGINEERING PROJECTS. LEARN RESOURCE, PERSONNEL, AND SCHEDULE MANAGEMENT

POWER & ENERGY

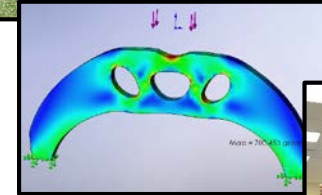
UNDERSTAND POWER PRODUCTION, CONVERSION, AND STORAGE. DEVELOP SUSTAINABLE ENERGY SYSTEMS.

MECHATRONICS

STUDY REAL-WORLD CONTROL OF ROBOTS, UNMANNED AERIAL VEHICLES, AND OTHER AUTONOMOUS SYSTEMS.

CORE MECHANICAL ENGINEERING COURSES

- FUNDAMENTALS OF ENGINEERING MECHANICS & DESIGN
- MECHANICS OF MATERIALS
- ENGINEERING MATHEMATICS
- DYNAMICS
- THERMAL-FLUID SYSTEMS I
- THERMAL-FLUID SYSTEMS II
- COMPUTER-AIDED DESIGN
- ENGINEERING MATERIALS
- MANUFACTURING AND MACHINE COMPONENT DESIGN
- MECHANICAL ENGINEERING DESIGN
- HEAT TRANSFER
- MECHANICAL SYSTEM DESIGN
- FUNDAMENTALS OF ELECTRICAL ENGINEERING
- VIBRATION ENGINEERING
- ME SEMINAR
- THREE ELECTIVE COURSES



For more information about ME programs,
e-mail Gunnar.Tamm@usma.edu
or go to <http://www.internal.dean.usma.edu/departments/cme/index.htm>
Like us on Facebook: West Point Civil and Mechanical Engineering



UNITED STATES MILITARY ACADEMY
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Electrical Engineering & Computer Science (EECS)

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The impact of the electronics revolution on our daily lives may exceed that of the industrial revolution. The advent of the integrated circuit and the microprocessor have made possible phenomenal advances in such varied fields as medicine, communications, manufacturing, computation, education, energy conversion, and weapons systems. Electrical engineers are at the forefront of this revolution, using the principles of physics, mathematics and the engineering sciences to develop new and innovative applications of electronics. Regardless of branch, officers will surely be involved with electronic systems in military hardware. The courses in the electrical engineering curriculum are directly applicable to the Army you will lead. As a student of electrical engineering you will develop a mastery of the fundamental elements of circuit theory, electromagnetic fields and waves, electronics, digital computer logic and electromechanical energy conversion. You will then study in greater depth subjects selected from the areas of robotics, communications, opto-electronics, alternative energy and cyber engineering. The program emphasizes practical design, hands-on laboratory and computer experience, teamwork, and interdisciplinary projects.

The program additionally provides a sound basis for graduate schooling in electrical engineering and related fields as well as fulfilling the disciplinary depth component of the USMA curriculum. The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.



Alternative Energy Sources



Military Robots



Opto-Electronics



Even our Enemies are developing robots!! Will you be part of the solution!



Cyber Engineering



Communications



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2020 Electrical Engineering Major

Freshman Fall Semester	Freshman Spr. Semester	Sophomore Fall Semester	Sophomore Spr. Semester	Junior Fall Semester	Junior Spr. Semester	Senior Fall Semester	Senior Spr. Semester
MA 103 Modeling 4.5	MA 104 Calc 1 4.5	MA 205 Calcu. 2 4.0	EE 302 Intr to EE 3.5	EE 362 Intro Elctr 3.5	EE 462 Electrn. Des. 3.5	EE 401 EE Sys Dsn 3.5	XE 402 Integ Sys Des 3.5
EN 101 Comp. 3.0	EN 102 Literature 3.0	EE 360 Dig Logic 3.5	MA 364 Engr. Math 3.0	EE 381 Sig & Sys 3.5	EE 383 ElectroMag. 3.5	EE 377 Power 3.0	EE 400 EE Prof Dev 3.0
CH 101 Chem 1 4.0	PH 205 Physics 1 4.0	PH 206 Physics 2 4.0	EV 203 Terr. Anal. 3.0	EE 375 Comp Arch 3.0	EE Depth 3.0	EE Depth 3.0	Elective 3.0
IT105 Intro to IT 3.0	PL100 Psych. 3.0	SS 201 Econ. 3.0	SS 202 Amer. Pol 3.0	MA 206 Prob & Stat 3.0	EE Depth 3.0	MC311 Therm-Flu 3.5	LW 403 Law 3.0
HI xxx Am Hist 3.0	HI yyy Reg Hist 3.0	LX 203 Lang. 1 4.0	LX204 Lang. 2 4.0	SS 307 Intrn'l Rel. 3.0	PL 300 Leadership 3.0	MX400 Officership 3.0	HI 302 Mil. Art 3.0
			PY 201 Philos. 3.0				

XE 442 Alt Energy	EE 480 Fiber
XE 472 Controls	EE 482 Wireless
XE 475 Mechatronics	EE 483 Photonics
EE 485 Spec Topics	EE 486 Solid State
EE 477 Dig Comm Sys	EE 487 Embed Sys
CS 301 Fund CS	EE 489 Indiv Study
CS 393 Databases	XE 492 Disrpt Tech

EE Honors Major

Core	EE Core	Elective	Engineering Breadth
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EE Major

- 41 courses
- ABET accredited
- Benchmarked

- 41 courses
- Minimum GPA
 - 3.0 in Core
 - 3.5 in Major
- Research or engineering paper suitable for publication

Depth Options

Alternative Energy

XE 472 Controls	XE 442 Alt Energy	EE 486 Solid State
EE 377 Power	LW 403 Or HI302	Elective

Communications

EE 477 Dig Com	EE 480 Fiber
EE 482 Wireless	

Cyber

CS 301 Fund CS	IT 350 Net Eng Mgt	CS 482 Cyber Sec.
EE 477 Dig Com	EE477 is a directed elective	

Opto Electronics

EE 486 Solid State	EE 480 Fiber
EE 483 Photonics	

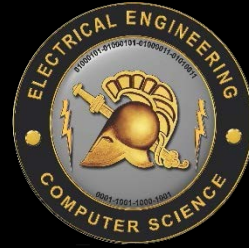
Robotics

EE 487 Embed Sys	XE 475 Mechatron	EE 477 Dig Com
XE 472 Controls	EE477 is a directed elective	



Computer Science Major

Study the theoretical and practical principles of computer programming and computer systems.



Three threads, taken together....

Programming & software design

CS301 Foundations of CS
CS384 Data Structures
CS478 Programming Languages
CS403 Testing & Development

Theoretical foundations

MA372 Discrete Math
CS474 Computer Theory
CS385 Algorithms
Math Elective

Systems fundamentals

IT305 Military Apps
EE360 Digital Logic
CS380 Computer Organization
CS484/IT350 Networking
CS481 Operating Systems

Applications of computing

XE401 Integrative Systems Design I
XE402 Integrative Systems Design II
CS400 Professional Considerations
2 CS electives

Choices include:

Applied Algebra & Cryptology
Applied Statistics
Linear Algebra
Sabermetrics
Graph Theory & Networks
Combinatorics
Mathematical Modeling

Choices include:

Artificial Intelligence
Graphics
Android Programming
Digital Forensics
Cyber Security Engineering
Database Systems
Embedded System Development
User Interface Development
Disruptive Innovations
CS Independent Study

Computer Science is a 41 course major, with 18 courses being CS-related. Curriculum is designed to remain relevant long after graduation. The major includes the **Cyber Engineering Sequence**, and starting with CL '20, Y305. Double majors and Semester Abroad Programs can be possible.

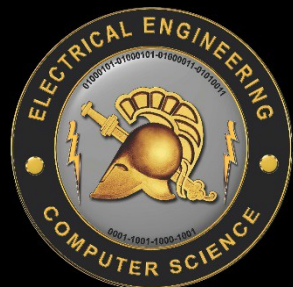
CS majors complete many projects and have exciting opportunities with AIADs, cadet clubs and other activities. The **year-long capstone design project**, culminating on Projects Day, is one exciting experience all CS majors undertake. CS cadets work in teams of 4-7 that include cadets in other majors.

The **CS Honors major** is very achievable by high-performing cadets (>3.5 in-major and 3.0 in Core courses), requiring only 1 extra course and a small Honors project. Most class year groups in recent memory have cadets publishing academic research and successfully competing for scholarships.

For more information about the CS Major, talk to anyone in EECS or contact LTC Chewar (christa.chewar@usma.edu)

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Why Computer Science?



Be part of EECS—an awesome community!

It's hard to imagine a more supportive faculty to help you on your journey. We're basically a fun-loving bunch of geeks who are really eager to work with the next generation of technologists.

For more information about the CS Major, talk to anyone in EECS or contact LTC Christa Chewar

Create software.



Channel true creativity.

Designing high-quality computing solutions is a highly creative activity. Support creative work in many other fields. The best solutions in computing exhibit high levels of elegance and beauty.

Amazing AIAD experiences.

Cool technologies are part of the job.

Wouldn't it be neat if you were actually completing classwork while gaming, working with graphics, virtual reality, robotics, social media, and mobile platforms, or hacking apps, and things like that?

Learn more programming.

It's all about **problem solving**.

Master complexity.

Build on mathematical foundations, to learn how to design efficient algorithms and determine kinds of problems solvable by computers. Solve deep, multi-dimensional problems that require imagination and interdisciplinary teams.

Blend with other disciplines.

A CS major will provide you with a foundation of knowledge, problem solving and logical thinking that will serve as a competitive advantage to you in your career, in whatever field you choose.

Be impactful on a team or individually.

Computing is often about being part of a team that requires people with many different kinds of skills. Yet there is also plenty of space for individual flair and imagination.

Learn some Greek.

For all $p, q \in Q$, all $Z \in \Gamma$, all $k \geq 1$,
and all $w \in \Sigma^*$,
 $[p, Z, q] \xrightarrow{lm} w$
iff $(p, w, Z) \vdash^+ (q, \epsilon, \epsilon)$.

Impress everyone you know with notes from Computer Theory.



The newest way to fight and win the nation's wars.



Learn attack and defense, then compete to win.

Hone cyber-related skills by learning networking and operating systems, reverse engineering, security, and digital forensics. Participate on the Competitive Cyber Team and win the Cyber Defense Exercise.

Beat Navy & everyone else in the Cyber Defense Exercise.



Lead in a highly complex technological environment.

Computing impacts everything we do!

Computer technology is part of so much that touches our lives from the cars we drive, to the movies we watch, to the ways businesses and governments function.

Make a positive difference in the world.

Computing drives innovation in sciences and engineering (for example, environmental monitoring and the human genome project), entertainment, business, and education sections.

So many lucrative career options.

Computing jobs are among the highest paid and job satisfaction. With more jobs than qualified people to fill them in the US, the projected growth rate is between 12% and 37% through 2022.



Computing Accreditation Commission

Accreditation Matters.

The Computer Science major is accredited by ABET's Computing Accreditation Commission, <http://www.abet.org>



INFORMATION TECHNOLOGY MAJOR

The Information Technology major is a 40 course major that helps prepare you to lead in the Cyber domain.

Our year-long capstone design projects are interdisciplinary. You will work on a project for a real-world customer and present your results during our Projects Day event.

Beyond the required class for the major, IT cadets select a two course IT Applications thread. Threads include: Remote Sensing, Geographic Information Systems, Military, Homeland Security and Human Interaction.

Cadets interested in the IT Honors major qualify by having over a 3.5 GPA for in-major courses and greater than a 3.0 GPA in Core courses. IT Honors cadets complete an additional two courses in the program and often have the opportunity to publish academic research.

For more information, visit EECS or contact LTC Estes (tanya.estes@usma.edu) or visit the EECS department homepage: www.westpoint.edu/eeecs

The Information Technology Program is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>

Apply your skills to real-world problems.



Learn to operate and lead in the Cyber domain.



Be part of a winning team.



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INFORMATION TECHNOLOGY MAJOR

Select two courses from one of five IT Application Threads.

Military:

- DS345 Military Innovation
- DS385 Sustaining the Force

Homeland Security:

- SS464 Homeland Security
- SS465 Terrorism: New Challenges

Human Interaction:

- PL250 Neurocognitive Foundations of Behavior
- PL392 Cognitive Psychology
- PL394 Anthropometrics & Biomechanics

Geographic Information Systems:

- EV398 Geographic Information Systems
- EV498 Adv. Geographic Information Systems

Remote Sensing:

- EV377 Remote Sensing
- EV477 Advanced Remote Sensing

Core Course

Required IT Course

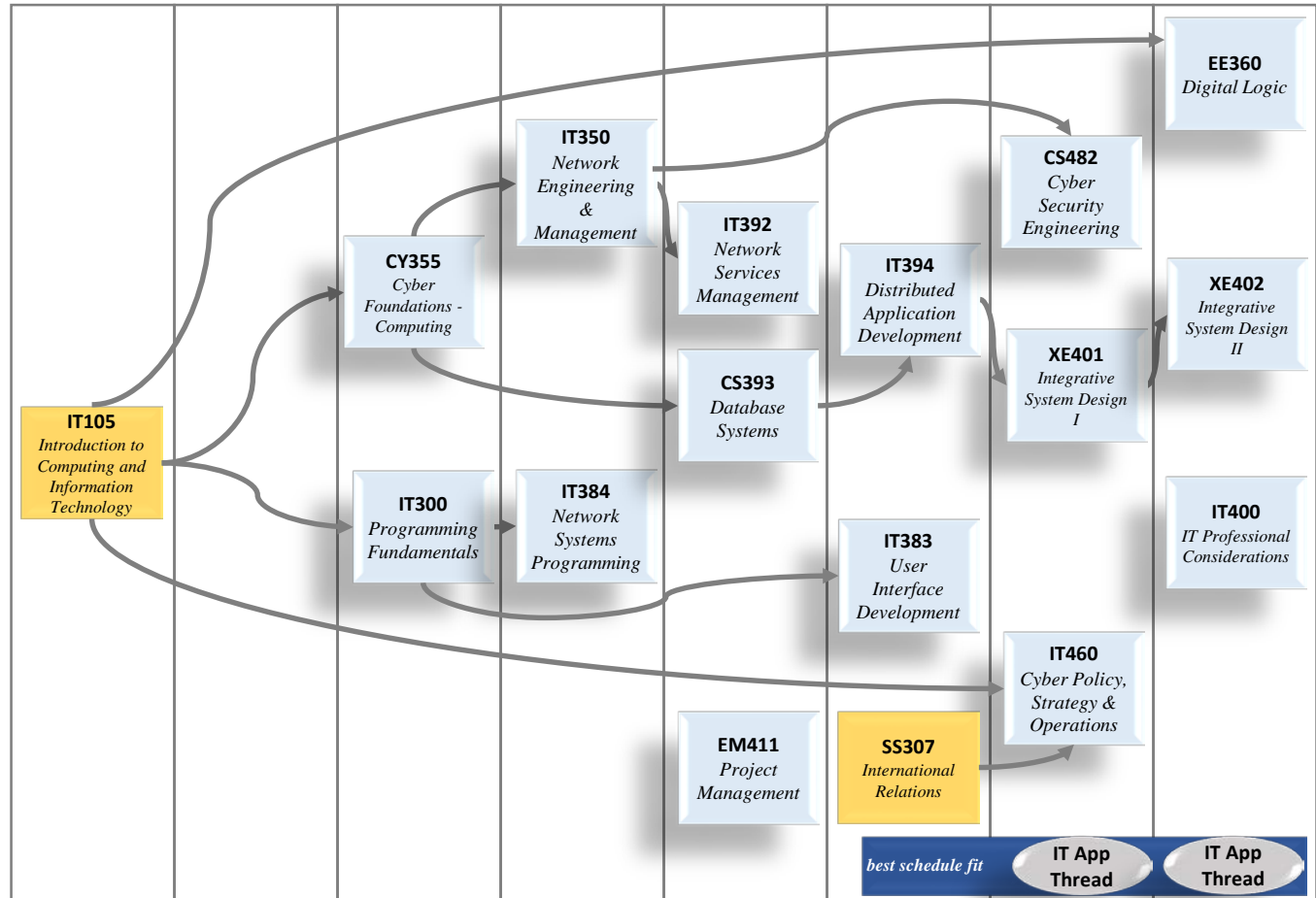
Elective

Freshman Year

Sophomore Year

Junior Year

Senior Year



For more information about the Information Technology Major, visit EECS or contact LTC Estes (tanya.estes@usma.edu)



UNITED STATES MILITARY ACADEMY
WEST POINT.

English & Philosophy (DEP)

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The Major in English

United States Military Academy
West Point, New York



"My time at Duke [studying literature] was an intellectual oasis after a long march. It allowed me time to broaden my perspective from the confines of military life and open it to another world, full of new ideas, viewpoints, issues and stories which helped me develop."

GEN(Ret) Martin Dempsey, '74, former Chairman of the Joint Chiefs of Staff and former faculty member in the Department of English and Philosophy

Visit us online at:

<http://www.usma.edu/dep/SitePages/default.aspx>

Or on Facebook: Department-of-English-and-Philosophy-USMA

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Why Major in English?

With a true appreciation of our diverse world, English majors are prepared to negotiate the problems facing twenty-first-century leaders. The study of literature moves beyond simple awareness of other perspectives and equips students with the skills they need to engage with other cultures. The resulting understanding of Humanity and culture is a vital contributor to success in the military profession. The study of literature fosters essential leadership skills including **critical thought**, clear and persuasive **communication**, **creativity**, and **ethical awareness**. By engaging with the diversity that characterizes the human condition, English majors are ready to solve problems creatively and also to communicate their ideas and solutions clearly and persuasively — talents essential to a meaningful life of service.



Experience Shakespeare's plays at the Globe Theater



English majors read narratives in a variety of ways, including in virtual reality.



Literature Matters.

From issues of civic responsibility to the lasting impact of colonial rule to current race relations, the range of topics in English is boundless.

Armed with a Variety of critical lenses through which to examine literature, English majors not only solve problems but do so creatively.

Not only do majors gain an ability to interpret a variety of texts, but they engage with vital cultural, sociological, and political issues represented in literature.



See culture manifested in both narratives and books themselves.



Examine communication at the national and strategic level.



A Sample of Course Offerings

Ancient to Early Modern Literature
 Contemporary Literature
 Literary Methodologies
 Film and Film Theory
 American Literature I and II
 British Literature I and II
 World Literature
 War Literature
 Romanticism
 Violence and Irish Literature
 Literature and the Great War
 The Novel
 Power and Difference
 Criticism
 Shakespeare
 Drama
 Poetry
 Senior Seminar
 Senior Thesis I and II

The English Community at West Point

- ❖ Zengerle Family Lecture in the Arts and Humanities
- ❖ Creative Arts Project
- ❖ Partnership with Hudson Valley Shakespeare Company
- ❖ Evening Drama Performances
- ❖ AIADs (various global locations and themes)
- ❖ Circle in the Spiral (Cadet Creative Writing Publication)
- ❖ Undergraduate Conferences
- ❖ West Point Writing Center Fellows Program
- ❖ African American Arts Forum
- ❖ Creative Writing Forum
- ❖ Elsie Sannes-Pinnell Art Appreciation Forum
- ❖ Trip Sections to NYC (Libraries, Theaters, etc)
- ❖ Works in Progress Colloquium
- ❖ Social Events for English Majors and Faculty



Our English Faculty have studied at:

The University of Pennsylvania
 Stanford Oxford University
 The University of Washington Columbia
 The University of Texas Harvard
 The University of Edinburgh
 Notre Dame Loyola
 The University of Colorado
 Yale The University of Michigan
 NYU The University of Tennessee
 The University of Virginia



*Ellen Chamberlain '14
presents her scholarly
research*

"It is to the skills and lessons I acquired in the study of art, philosophy, and literature that I turned most frequently and used each and every day to understand, to communicate, to educate, and to motivate others in helping me accomplish my military responsibilities."

GEN(Ret) Eric Shinseki, '65, former Chief of Staff of the Army and former faculty member of the Department of English and Philosophy.

The Major in Philosophy

United States Military Academy
West Point, New York



"It is to the skills and lessons I acquired in the study of art, philosophy, and literature that I turned most frequently and used each and every day to understand, to communicate, to educate, and to motivate others in helping me accomplish my military responsibilities."

GEN(Ret) Eric Shinseki, '65, former Chief of Staff of the Army and former faculty member of the Department of English and Philosophy.

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<http://www.usma.edu/dep/SitePages/default.aspx>

Or on Facebook: Department-of-English-and-Philosophy-USMA

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Why Major in Philosophy?

Philosophy builds conceptual skills you will need as an officer in any branch of the Army and as an educated professional throughout your life – skills essential to leadership. Philosophy demands clarity, objectivity, sound reasoning, good writing, and a sense of fairness. It is the native home of **Critical Thinking**. Philosophy promotes:

Ethical Reflection

Philosophy gives the future officer a rational framework for understanding the ethical principles behind duty and right conduct and for resolving tensions between them.

Cultural Awareness

The mind and values of distant cultures reveal the universal character of humanity: ancient Greece and Rome (pursuit of the good life); the Far East (the goal of inner happiness); early Modern Europe (science in conflict with religion). Logic reveals rules which lie at the heart of reason itself.

Education for Now and for Life

Philosophical enquiry helps define a university education. Philosophy enlarges the self. The questions are fundamental, intriguing, compelling, and enduring: Can we prove the existence of God? What is the place of mind in the physical world? Is human freedom compatible with the necessity of scientific laws? What does it mean that people are "created equal"? Philosophy is not a body of facts; it is the spirit of investigating facts.



Cadets at "Selection Square" in Krakow, Poland, contemplate the moral depravity of liquidating the Krakow ghetto. At this site, Nazi soldiers forced men onto trains to Auschwitz and murdered 16,000 women and children.

Philosophy Matters.



"Studying philosophy has broadened my perspective and provided me the necessary tools to effectively build consensus with host-nation leaders, locals, and both national and international partners. It has made me a far more reflective-thinker; I better examine problems, analyze critical information, and articulate arguments that compel action. Philosophy develops many of the competencies and attributes necessary to excel in the Army and on the battlefield."

- Major Tim Leone '03



Explore the intersection of ethics and technology



What You Can Study

Aristotle and Plato

Contemporary Philosophy

Cyber Ethics

Descartes and Locke

Eastern Thought

Kant

Logic

Military Ethics

Philosophy of Mind

Philosophy of Religion

Philosophy of Science

Political Philosophy

Theory of Knowledge

The Philosophy Community at West Point

Philosophy Forum

Guest lectures and activities for Philosophy majors and all cadets interested in Philosophy

Ethics Debate Team

Regional and national competitions

Mid-Hudson Philosophy Society

Annual conference of faculty and Philosophy majors from five neighboring colleges

Ethics of War Annual Conference

Partnership with Villanova University involving invited speakers and student presentations

Carnegie Council for Ethics in International Affairs

Panel discussions on global issues of moral, legal and political significance

Army Cyber Institute

Lectures on topics related to Cyber Ethics

Undergraduate Conferences and Journals

Opportunities for cadets to present, defend, and publish their own work



CDT Sam Kolling '16 is addressing faculty and students at the 2014 Mid-Hudson Philosophy Society

Our Philosophy Faculty have studied at:

Stanford

Oxford University

Columbia

Rutgers University

Harvard

The University of Michigan

The University of Edinburgh

The University of Texas

Notre Dame

The University of Colorado

Loyola

Yale

UC - Berkley

NYU

The University of Tennessee

The University of Virginia

The University of Pennsylvania



Philosophy majors with Dr. Richard Schoonhoven at the Fall Majors' Social at Cullum Hall

"We will have to think our way, not bludgeon our way, into the future. There will be more options, but also more ambiguity in dealing with the challenges we face.... Leaders preparing for service at the strategic level must possess an educational foundation that enables creative and critical thinking in an environment of complexity, ambiguity and uncertainty."

GEN(Ret) Martin Dempsey, '74, former Chairman of the Joint Chiefs of Staff and former faculty member in the Department of English and Philosophy



UNITED STATES MILITARY ACADEMY
WEST POINT.

Foreign Languages (DFL)

Back
to
ToC

Where will a Foreign Language Major take you?

SEMESTER ABROAD STUDY
FOREIGN ACADEMY EXCHANGE

SUMMER LANGUAGE IMMERSION
FOREIGN MILITARY SCHOOLS



ARABIC
Middle Eastern Studies

CHINESE
East Asian Studies

SPANISH
Latin American Studies

RUSSIAN
Eurasian Studies

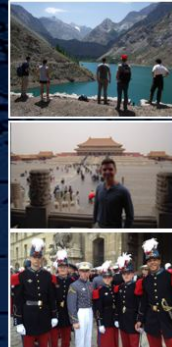
PORTUGUESE
Latin American Studies
French Studies



FRENCH
European Studies
African Studies

GERMAN
European Studies

PERSIAN
Middle Eastern Studies



Open the World

West Point Department of Foreign Languages
www.usma.edu/dfl

WASHINGTON HALL 5200 WING

MG Rick Waddell, PhD (USMA '82)

Deputy Commander for Mobilization and Reserve Affairs
US SOUTHCOM

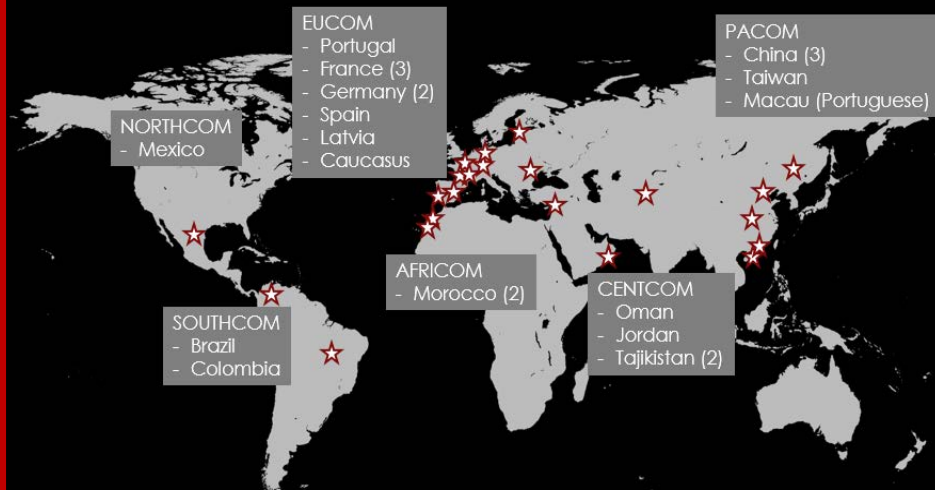


- ▶ "My decision to study Portuguese at the United States Military Academy had a tremendously positive impact on my career and helped me to achieve success."
- ▶ "While serving as the CEO of Anglo Ferrous, I required my American employees to take Portuguese lessons. This enhanced our work performance and ensured that we maintained a competitive advantage."

Semester Abroad Programs



AIADs



[DFL Website](#)

[DFL SharePoint](#)

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4th Class Year		3rd Class Year		2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term
MA103	MA104	MA206	PY201	PL300	SS307	MX400	LW403
CH101	PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN101	EN102	LN380	SS202	HI302	IT305	LA475	LA484
IT105	PL100	SS201	CSC	CSC	CSC	LA483	LA472
HI105	HI108*	LA203*	LA204*	LA371	LA372	LA485	LA476

- 8TAP for Arabic Major

4th Class Year		3rd Class Year		2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term
MA103	MA104	MA206	PY201	PL300	SS307	MX400	LW403
CH101	PH205	SCIENCE	EV203	LR203	LR204	LR371	LR372
EN101	EN102	LN380	SS202	CES1	CES2	CES3	LN490
IT105	PL100	SS201	CSC	CSC	CSC	LP475	LP476
HI105	HI108*	LP203*	LP204*	LP371	LP372	LP485	LP492
				HI302	IT305		

- 8TAP for Portuguese & Russian Major

4th Class Year		3rd Class Year		2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term
MA103	MA104	MA206	PY201	PL300	SS307	MX400	LW403
CH101	PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN101	EN102	EV365	EV376	CES1	CES2	CES3	SS366
IT105	PL100	SS201	SS202	SS383	HI380	CSC	EV382 LN490 SS496
HI105	HI108*	LZ203*	LZ204*	LZ371	LZ372	LZ475	LZ484

- 8TAP for Middle East / Persian Studies Major

Single Language Major (10 Courses)

- The Nature of Modern Languages (LN380)
- Language & Culture Capstone Seminar (LN490)
- 8 Primary Language Courses
 - Intermediate Language Course (371/372)
 - Civilizations (483/484) & Literature Courses (485/486/492)
 - Military Speaking and Reading (476)
 - Reading & Writing Through the Media (475)

Dual Language Major (12 Courses)

- The Nature of Modern Languages (LN380)
- Language & Culture Capstone Seminar (LN490)
- 6 Primary Language Courses
 - Intermediate Language Course (LA371/LA372)
 - Civilizations & Literature
 - Military Readings
 - Media
- 4 Secondary Language Courses
 - Basic Language Course (203/204)
 - Intermediate Language Course (371/372)

Foreign Area Studies Major (10 Courses)

- 4 Primary Language Courses
 - 2 Intermediate (371/372)
 - 2 Advanced (475 & 484)
 - 1 Social Sciences Course
- 2 Geography Courses (EV365 / EV376 - Regional)
- 2 Regionally Focused Social Science Course (SS383/SS366)
- 1 Regionally Focused History Course (HI380)
- 1 Capstone Course (LN490 / SS496 / EV382)

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.



DFL Major Courses



Major Courses not in DFL



CSC Electives

أهلا وسهلا!

Be an Arabic Language Major!

Arabic Language ~ Arabic with Honors ~ Middle Eastern Studies ~ Double Language

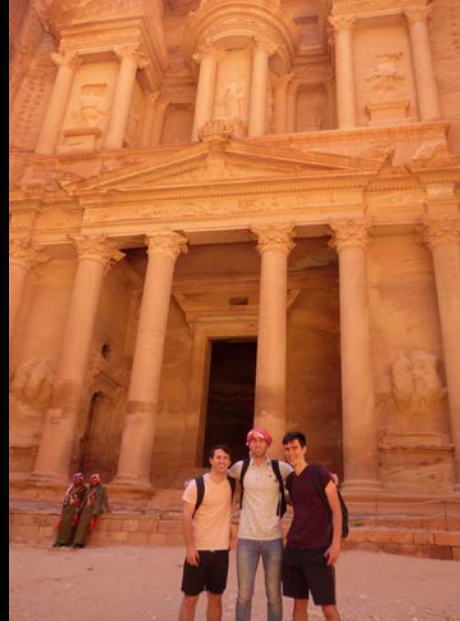
What Can I Expect as an Arabic Major?

As an Arabic Language or Middle Eastern Studies major you will develop your linguistic interest and aptitude by broadening and deepening your mastery of the language and culture at the crossroads of yesterday, today and tomorrow. The Middle East is the cradle of civilization, the birthplace of the world's three great monotheistic religions, and stands at the center of energy markets, the global economy, and geopolitics for the foreseeable future.

Immersion opportunities in the Arab world include:

- **FAEP** during spring break. Arabic majors have traveled to FAEPs in Jordan, Qatar, the United Arab Emirates, Saudi Arabia, and other non-Arab Mideast countries.
- **SAP:** Right now we have Cadets studying on the Semester Abroad Program in Jordan, Morocco, and Oman, and we are always looking for new educational opportunities for Cadets in the Arab world.
- **AIAD:** Intensive summer Arabic cultural-linguistic immersion. We offer programs of travel and study as well as service opportunities to put your values to work while you learn. Study Arabic abroad for academic credit!
- **Academic Award Available:** Honor Society of Phi Kappa Phi, Arabic Honors Programs, Graduation Honor Roll, and the BG Charles P. Stone's Award for Excellence in Arabic.

Maximize your Arabic experience competing as a delegate in the **Model Arab League** against other universities, or explore Arab language and culture through film, cuisine, or trip sections with the **Arabic Club** – see your DFL Arabic team for more information.



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What Are My Study Program Options?



Here are some sample 8TAPs for the **Arabic Language** major or the **Middle Eastern Studies** major; each consisting of 13 courses. 1- Take a **double-language** major with 15 courses, replacing one upper- level Arabic course with four courses in a second language. For **Honors** majors with thesis add an additional advanced level elective and LN488.

Example: Arabic Language Major

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LA475	LA484
PL100	SS201	CSC	CSC	CSC	LA483	LA476
HI108*	LA203*	LA204*	LA371	LA372	LA485	LA492

Courses in the Arabic Major

LA371: Intensive Intermediate Arabic

LA372: Arabic for Oral & Written Comm

LA470: Special Topic in Arabic

LA472: Colloquial Arabic

LA475: Arabic RDG/WRITG thru Media

LA476: Military SPKG/RDG

LA483: Arab Civilization I

LA484: Arab Civilization II

LA485: Arabic Literature I

LA486: Arabic Literature II

LA492: Arabic Literature III

LN487: Adv Ind Language Study

LN488: Adv Ind Language Study

LN490: Language & Culture CAP SEM

LN491-5: Semester Abroad: ADV Language

Example: Dual Arabic and French Major

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENC E	EV203	LF203	LF204	LF371	LF372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LA475	LA476
HI108*	LA203*	LA204*	LA371	LA372	LA485	LA492
			HI302	IT305		

Example: Middle Eastern Studies Major

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENC E	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV376	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS383	HI339	CSC	LN490
HI108*	LA203*	LA204*	LA371	LA372	LA475	LA484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.

*LN440 Arabic in Context may replace any LN or LA course



[DFL Website](#)

[DFL SharePoint](#)

選擇中文! Be a Chinese Major!

Chinese Language ~ Chinese with Honors ~ East Asian Area Studies ~ Double Language

What Can I Expect as a Chinese Major?

As a Chinese language major, you will develop a high level of Chinese language proficiency and cultural understanding. Your courses will focus on language, culture, and Chinese society. You may have the opportunity for academic travel to Chinese-speaking areas such as Taiwan, Singapore, or Mainland China.

FOREIGN ACADEMY EXCHANGE PROGRAM (FAEP): Immerse yourself in the language and culture of a cadet at the Taiwan Military Academy or experience life at the Singapore Military Academy.

AIAD: Travel to Mainland China or Taiwan to study Chinese in an intensive summer language program while traveling to historic sites.

SEMESTER ABROAD PROGRAM (SAP): Spend a semester studying Chinese and truly experiencing another culture in an immersion environment in Beijing, China or Taipei, Taiwan.

CHINESE CLUB: Participate in weekly club activities; learn and experience Chinese culture through food, media and instruction; socialize with other Chinese-language cadets.

ACADEMIC AWARDS AVAILABLE: Compete for the Brigadier General Charles J. Barrett Memorial Award for most outstanding cadet in language studies; the SGT Larry Morford Friendship Award for Chinese and Russian; the LTG Ying Hsing Wen Memorial Award for Chinese; and the Brigadier General Anthony J. Smith Award for excellence in foreign studies.



[Return to LoM](#)

Where will your language take you?



[DFL Website](#)

[DFL SharePoint](#)

What Are My Study Program Options?

You can choose from a **Chinese Language Major**; combine Chinese and another language in a **Dual Language Major**; or combine language and regional studies with an interdisciplinary **East Asian Studies Major**. Each of these options also has an honors program. Chinese also works well as part of a **Double Major** with another department.

Sample Chinese-language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LC483	LC484
PL100	SS201	CSC	CSC	LC470	LC485	LC486
HI108*	LP203*	LP204*	LC371	LC372	CSC	LA476

LC 371
INTENSIVE INTERMEDIATE CHINESE

LC372
CHINESE FOR ORAL AND WRITTEN COMM.

LC470
SPECIAL TOPIC IN CHINESE

LC475
CHINESE RDG/WRITG THRU MEDIA

LC476
MILITARY SPKG/RDG - CHINESE

LC483
CHINESE CIV I

LC484
CHINESE CIV II

LC485
CHINESE LIT I

LC486
CHINESE LIT II

LC492
CHINESE LIT III

LN380
NATURE OF MODERN LANGUAGES

LN440C
CHINESE IN CULTURAL CONTEXT

LN490
LANGUAGE AND CULTURE CAPSTONE SEMINAR

Sample Dual-Language 8TAP (Chinese & Persian)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LZ203	LZ204	LZ371	LZ372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	LC470	CSC	LC476
HI108*	LP203*	LP204*	LC371	LC372	LC483	LC484
			HI302	IT305		

Sample Area Studies 8TAP (East Asia)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV372	CES1	CES2	CES3	SS372
PL100	SS201	SS202	SS366	HI337	CSC	INT EXP
HI108*	LP203*	LP204*	LZC71	LC372	LC483	LC484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.

In addition to potential semesters abroad and AIADs to China, Taiwan, and other Chinese-speaking countries, Chinese majors also have the opportunity to put their language skills to use in world-impacting research on any number of available topics. **Past Cadets conducted individual research at the Chinese Academy of Social Sciences in Beijing.** Opportunities for research and study abroad are numerous and can be individually-tailored to research interests. Research trips to conferences or other events during the semester (4-5 day trip sections) or over long breaks are possible.

Étudiez le français! Be a French Language Major!

French Language ~ French with Honors ~ European Area Studies ~ African Area Studies ~ Double Language

What Can I Expect as a French Major?

As a French language major, you will be able to function in a military or civilian francophone environment. You will be able to adapt culturally and use your experience with French to more rapidly adapt to other cultural settings in military and civilian milieu.

FOREIGN ACADEMY EXCHANGE PROGRAM (FAEP): Develop lasting international relationships as you travel to francophone Africa during Spring Break, and later host one of your overseas sponsors at West Point.

MIAD: Travel to the Pyrenees Mountains to test your mettle in either the French Airborne School or the grueling French Commando School or train with French units on the African continent!

AIAD: Study in an intensive summer language immersion program at the Center for French Language at the School of the Gendarmerie in Rochefort, France, or travel to francophone Africa.

SEMESTER ABROAD PROGRAM (SAP): Spend a semester studying French and truly experiencing the culture in an immersion environment in France. Attend universities in Lille, Lyon, or the Military Academy of Saint-Cyr as part of West Point's oldest foreign exchange program. Many SAP attendees have the opportunity to conduct joint military training with select French units.

FRENCH FORUM: Participate in bi-weekly club activities, learn and experience francophone culture through food, media and instruction. Socialize with other French-language cadets. Taste and see French and francophone culture during a Spring Break trip to France or the annual trip sections to Montréal and Québec.

ACADEMIC AWARDS AVAILABLE: The Brigadier General Charles J. Barrett Memorial Award for most outstanding cadet in language studies, The Order of Lafayette Award for excellence in French, The Brigadier General Anthony J. Smith Award for excellence in foreign studies.



[Return to LoM](#)

What Are My Study Program Options?

Where will your language take you?



You can choose from a **French Language Major**, combine French and another language with a **Dual Language Major**, or combine the language and the region with an interdisciplinary **European or African Studies Major**. Each of these options can be taken as an honors program.

Sample French-language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LF475	LF484
PL100	SS201	CSC	CSC	CSC	LF483	LF476
HI108*	LF203*	LF204*	LF371	LF372	LF485	LF492

REQUIRED COURSES (LN380, LN490 + 8 FRENCH)

LN380
NATURE OF MODERN LANGUAGES

LF371
INTENSIVE INTERMEDIATE FRENCH

LF372
FRENCH FOR ORAL & WRIT COMM

LF475
FRENCH RDG/WRTG THROUGH MEDIA

LF476
MILITARY SPEAKING/RDG IN FRENCH

LF483
FRENCH CIVILIZATION I

LF484
FRENCH CIVILIZATION II

LF485
SURVEY OF FRENCH LITERATURE I

LF486
SURVEY OF FRENCH LITERATURE II

LN490
LANGUAGE AND CULTURE CAPSTONE SEMINAR

LF492
MASTERWORKS OF FRENCH LITERATURE

Sample Dual-Language 8TAP (French & Arabic)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LA203	LA204	LA371	LA372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LF475	LF476
HI108*	LF203*	LF204*	LF371	LF372	LF485	LF492
			HI302	IT305		

Sample Area Studies 8TAP (Europe)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV386	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS377	HI364	CSC	LN490
HI108*	LF203*	LF204*	LF371	LF372	LF475	LF484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.

[DFL Website](#)

[DFL SharePoint](#)

Studieren Sie Deutsch! Be a German Major!

German Language ~ German with Honors ~ European Area Studies ~ Dual Language

GO ABROAD!

We want our German Majors to experience life in Germany and Austria. Each year we send at least 12 cadets on Summer AIADs and 12 cadets on Semesters Abroad.



Academic Awards Available: Steuben Society of America Award



[Return to LoM](#)

Where will your language take you?



[DFL Website](#) [DFL SharePoint](#)

What Are My Study Program Options?

You can be a *German Language Major*, a *Dual Language Major*, or combine the language and the region with an interdisciplinary *Foreign Area Studies: Europe* major.

Sample German-language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LG484
EN102	LN380	SS202	HI302	IT305	LG476	LG486
PL100	SS201	CSC	CSC	CSC	LG483	LG492
HI108*	LG203*	LG204*	LG371	LG372	LG485	LN490

German Course Offerings

LG 371
INTENSIVE INTERMEDIATE GERMAN

LG372
GERMAN FOR ORAL & WRITTEN COMM

LG470
SPECIAL TOPICS IN GERMAN

LG475
READING & WRITING THROUGH MEDIA

LG476
GERMAN MILITARY SPEAKING & READING

LG483
GERMAN CIVILIZATION I

LG484
GERMAN CIVILIZATION II

LG485
SURVEY OF GERMAN LITERATURE I

LG486
SURVEY OF GERMAN LITERATURE II

LN490
LANGUAGE AND CULTURE CAP SEMINAR

LG492
20th & 21st CENTURY GERMANY

Sample Dual-Language 8TAP (German & French)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LF203	LF204	LF371	LF372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LG475	LG476
HI108*	LG203*	LG204*	LG371	LG372	LG485	LG492
			HI302	IT305		

Sample 8TAP: Foreign Area Studies, Europe

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV386	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS377	HI343	CSC	LN490
HI108*	LP203*	LP204*	LZ371	LZ372	LZ475	LZ484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.



چرا فارسی بخوانیم؟ Study Persian!

Area Studies Middle East: Persian ~ Dual Arabic and Persian Major

What Can I Expect as a Persian Student?

The sphere of influence of the Persian language and culture, or *the Persianate World*, stretches from China in the East through Central Asia to Georgia and Azerbaijan in the north, the Persian Gulf in the South and Kurdistan in the West. As an *Area Studies Middle East (Persian)* major you will develop your linguistic skills by broadening and deepening your mastery of the language and culture at the crossroads of history and civilization. Complementary courses from other departments will help to contextualize and deepen your mastery of the region and the language.

AIAD: Persian boasts the longest Summer AIAD program of any language with an 8-week total immersion in Dushanbe, Tajikistan. Cadets live with host families for the duration of their stay and receive formal instruction in Iranian Persian (Farsi) and Tajik Persian (Tajiki). During their stay, cadets visit major historic sites of Tajikistan and take regular excursions into the majestic Tajik country side to experience local food culture and geography.

SAP: Apart from intense cultural and linguistic immersion, cadets take part in distance learning and online courses while in Dushanbe for a whole semester.

Spring Immersion: During Spring Break 2016, six cadets took part in a Persian immersion opportunity in LA!

Persian Forum: Cadets are encouraged to take advantage of events organized by the Persian Forum. The club holds movie nights, and travels to NYC to visit a Persian school for kids as well as experience Persian, Tajik, and Afghan cuisine. Cadets also march in the annual NYC Persian Parade. We plan to visit a nearby Zoroastrian Fire Temple as well as a Persian Jewish Temple in the Great Neck area of New York. In addition, the Forum regularly holds “Farsi Friday” tea and conversation events at the office of the Persian section to encourage development of conversational skills.

Academic Award Available: Honor Society of Phi Kappa Phi and DFL Award for Excellence in Persian Studies.



[Return to LoM](#)

Where will your language take you?



What will my program be?

Here is a sample 8TAPs for the **Area Studies Middle East: Persian** major consisting of ten courses. Or, take a **double-language** major with 13 courses, replacing upper level Persian courses with courses in another language.

For an **Honors** major with thesis, add LN488.

Courses Offered in Persian

- LZ371
Intensive Intermediate Persian
- LZ372
Persian for Oral and Written Comm.
- LZ475
Persian RDG/WRTG thru the Media
- LZ484
Persian Civilization
- LN440Z
Persian in Context (Summer Abroad)
- LN487
Advanced Individual Language Study
- LN488
Advanced Individual Language Study
- LN490
Capstone

Example: Area Studies Middle East: Persian

2nd Class Year		1st Class Year	
Fall	Spring	Fall	Spring
CES1	CES2	CES3	HI302
IT305	EN302	HI301	LZ483
PL300	SS307	LW403	EV376
LZ371	LZ372	LZ475	SS383
HI339	EV376	SS366	LN490

Example: Dual Arabic and Persian Major

2nd Class Year		1st Class Year	
Fall	Spring	Fall	Spring
CES1	CES2	CES3	HI302
IT305	EN302	HI301	LA476
PL300	SS307	LW403	LA475
LZ371	LZ475	LZ483	LZ483
LA203	LA204	LA371	LN490



[DFL Website](#)



[DFL SharePoint](#)

BEM-VINDO!

Be a Portuguese Language Major!

PORTUGUESE LANGUAGE ~ PORTUGUESE HONORS ~ LATIN AMERICA, EUROPE, AFRICA AREA STUDIES ~ DUAL LANGUAGE

What Can I Expect as a Portuguese Major?

Portuguese courses will focus on language, culture and life in the Lusophone World. You may also have the opportunity for academic travel to Portuguese-speaking areas such as Brazil, Portugal, Mozambique, Cape Verde, and Macau among others.

FOREIGN ACADEMY EXCHANGE PROGRAM (FAEP): Travel to military Academies in Resende, Brazil, Lisbon Portugal, Nampula, Mozambique, to live the life of a Portuguese-speaking cadet!

MIAD: Travel to the Agulhas Negras Mountain Range to take part in the Brazilian Mountain School.

AIAD: Travel to Brazil, Portugal or other Lusophone countries to study and speak Portuguese in military and non-military settings, and travel to see historic sites.

SEMESTER ABROAD PROGRAM (SAP): Spend a semester studying Portuguese and truly experiencing the culture in an immersion environment at the Brazilian Military Institute (IME) in Rio de Janeiro, Brazil; the Federal University of Brasília, Brazil, the University of Coimbra, Portugal and the Portuguese Military Academy in Lisbon, Portugal.

PORTUGUESE FORUM: Participate in club activities, learn and experience Portuguese culture through food, media and instruction, and socialize with other Portuguese-language cadets.

ACADEMIC AWARDS AVAILABLE: The Brigadier General Charles J. Barrett Memorial Award for most outstanding cadet in language studies, The award for Excellence in Portuguese sponsored by the Daughters of the Founders and Patriots of America, and The Brigadier General Anthony J. Smith Award for excellence in foreign studies.



[Return to LoM](#)

What Are My Study Program Options?

You can choose from a *Portuguese Language Major*, combine Portuguese and another language with a *Dual Language Major*, or combine the language and the region with an interdisciplinary *Latin America, Europe or Africa Studies Major*. Each of these options can be taken as an honors program.



LN380
NATURE OF MODERN LANGUAGES

LP371
INTENSIVE INTERMEDIATE PORTUGUESE

LP372
PORTUGUESE FOR ORAL/WRTN COMM.

LP475
PORTUGUESE RDG/WRTG THROUGH MEDIA

LP476
MILITARY SPEAKING/RDG IN PORTUGUESE

LP483
CIV. OF THE PORT.-SPEAKING WORLD I

LP484
CIV. OF THE PORT.-SPEAKING WORLD II

LP485
SHORT STORY IN PORTUGUESE

LP492
LIT. OF THE PORTUGUESE-SPEAKING W

LN490
LANGUAGE AND CULTURE CAP SEMINAR

HI348
MODERN LATIN AMERICA

EV365
GEOGRAPHY OF GLOBAL CULTURES

EV373
GEOGRAPHY OF LATIN AMERICA

SS366
COMPARATIVE POLITICS

SS384
POL. & GOV. - LATIN AMERICA

Sample Portuguese-Language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LP483	LP484
PL100	SS201	CSC	CSC	CSC	LP475	LP476
HI108*	LP203*	LP204*	LP371	LP372	LP485	LP492

Sample Dual-Language 8TAP (Portuguese & Spanish)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LS203	LS204	LS371	LS372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LP475	LP476
HI108*	LP203*	LP204*	LP371	LP372	LP485	LP492
			HI302	IT305		

Sample Foreign Area Studies 8TAP (Latin America)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV373	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS384	HI348	CSC	LN490
HI108*	LP203*	LP204*	LP371	LP372	LP483	LP484

[DFL Website](#)

[DFL SharePoint](#)

РУССКИЙ ЯЗЫК

Be a Russian Language Major!

RUSSIAN LANGUAGE ~ RUSSIAN WITH HONORS EURASIAN AREA STUDIES ~ DUAL LANGUAGE

What Can I Expect as a Russian Major?

As a Russian language major you will follow a track of courses designed to develop your Russian language proficiency and cultural understanding. These courses will focus on language, culture, and Russian life. You may also have the opportunity for academic travel to Russian-speaking places such as Kazakhstan, Belarus, Georgia, Moldova, Armenia, or Latvia.

FOREIGN ACADEMY EXCHANGE PROGRAM (FAEP): Travel to places like the Kazakhstan National Military Institute in Almaty and live the life of a Kazakhstani cadet.

MIAD: Travel to the Caucasus Mountains in Georgia to take part in the NATO-accredited Georgian Mountain Training School.

AIAD: Travel to Daugavpils, Latvia or Batumi, Georgia to study Russian in an intensive summer language immersion program, and travel to see historic sites.

SEMESTER ABROAD PROGRAM (SAP): Spend a semester studying Russian and truly experiencing the culture in an immersion environment in Daugavpils, Latvia, Batumi, Georgia and Kishinev, Moldova, or Almaty, Kazakhstan. Some SAP attendees also complete the “frozen conflicts” study program in republics of the former Soviet Union.

RUSSIAN CLUB: Participate in weekly club activities, learn and experience Russian culture through food, media, and guest lectures; socialize with other Russian majors and Russian-speaking cadets.

ACADEMIC AWARDS AVAILABLE: The BG Charles J. Barrett Memorial Award for most outstanding cadet in language studies, The Col. Phillip Matthews Award for excellence in Russian, The West Point Friendship Award for excellence in Russian, The BG Anthony J. Smith Award for excellence in foreign studies.



[Return to LoM](#)



What Are My Study Program Options?

You can choose from a **Russian Language Major** or combine Russian with another language in a **Dual Language Major**, or combine study of the language and region with an interdisciplinary **Eurasian Studies Major**. Each of these options can be taken as an honors program. A **Regional Studies Minor** is also available.

Sample Russian Language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LR475	LR484
PL100	SS201	CSC	CSC	CSC	LR483	LR476
HI108*	LR203*	LR204*	LR371	LR372	LR485	LR492

LN380
NATURE OF MODERN LANGUAGES

LR371
INTENSIVE INTERMEDIATE RUSSIAN

LR372
RUSSIAN FOR ORAL & WRIT COMM

LR475
RUSSIAN RDG/WRITG THROUGH MEDIA

LR476
MILITARY SPEAKING/RDG IN RUSSIAN

LR483
RUSSIAN CIVILIZATION I

LR484
RUSSIAN CIVILIZATION II

LR485
SURVEY OF RUSSIAN LITERATURE I

LR486
SURVEY OF RUSSIAN LITERATURE II

LN490
LANGUAGE AND CULTURE CAPSTONE SEMINAR

LR492
RUSSIAN LIFE IN FICTION

Sample Dual Language 8TAP (Russian & Persian)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LZ203	LZ204	LZ371	LZ372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LR475	LR476
HI108*	LR203*	LR204*	LR371	LR372	LR485	LR492
			HI302	IT305		

Sample Area Studies 8TAP (Eurasia)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV371	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS375	HI367	CSC	LN490
HI108*	LR203*	LR204*	LR371	LR372	LR475	LR484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.

[DFL Website](#)

[DFL SharePoint](#)

¡BIENVENIDOS! Be a Spanish Language Major!

SPANISH LANGUAGE ~ SPANISH WITH HONORS LATIN AMERICAN STUDIES ~ DOUBLE LANGUAGE

What Can I Expect as a Spanish Major?

As a Spanish language major you will follow a track of courses designed to develop your Spanish language proficiency and cultural understanding. These courses will focus on language and cross-cultural competency. You may also have the opportunity for academic travel to Spanish-speaking areas such as Spain, Chile, Mexico, or Colombia.

FOREIGN ACADEMY EXCHANGE PROGRAM (FAEP): Travel to places like the Spanish, Colombian, Peruvian, or Mexican Military Academies and live the life of a Spanish-speaking Military cadet.

MIAD: Travel to Lonquimay in Chile to take part in the Chilean Mountain Warfare School.

AIAD: Travel to Spain, Chile, Colombia, Mexico, or another Spanish-speaking country to study Spanish in an intensive summer language immersion program, and travel to see historic sites.

SPRING IMMERSION: Spend your spring break experiencing Spanish or Latin American culture first hand in countries like Costa Rica, Puerto Rico, Dominican Republic, Spain, or other exciting locations.

SEMESTER ABROAD PROGRAM (SAP): Spend a semester studying Spanish and culture in an immersion environment in Spain, Chile, or Mexico.

SPANISH CLUB: Participate in weekly club activities, learn and experience Spanish culture through food, media and instruction, and socialize with other Spanish-language cadets.

ACADEMIC AWARDS AVAILABLE: Honor Society of Phi Kappa Phi, Spanish Honors Program, Graduation Honor Roll



[Return to LoM](#)



What Are My Study Program Options?

You can choose from a *Spanish Language Major*, combine Spanish and another language for a *Dual Language Major*, or combine the language and the region with an interdisciplinary *Latin American Studies Major*. Each of these options can be taken as an honors program. Language majors also work well as part of a *Double Major* with another department.

Third Class courses
are identical for all
Spanish Major
options.

LN380
NATURE OF MODERN LANGUAGES

LS 371
INTENSIVE INTERMEDIATE SPANISH

LS 372
SPANISH FOR ORAL AND WRITTEN
COMM.

LS470
SPECIAL TOPIC IN SPANISH

LS475
SPANISH RDG/WRTG THROUGH
MEDIA

LS476
MILITARY SPEAKING/RDG IN SPANISH

LS483
SPANISH CIV AND CULTURE

LS484
SPANISH AMERICAN CIV AND
CULTURE

LS485
SPANISH-AMERICAN LITERATURE

LS486
THE LITERATURE OF SPAIN

LN490
LANGUAGE AND CULTURE CAP
SEMINAR

Sample Spanish-language 8TAP

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	CES1	CES3	CES3	LN490
EN102	LN380	SS202	HI302	IT305	LS483	LS484
PL100	SS201	CSC	CSC	CSC	LS475	LS476
HI108*	LS203*	LS204*	LS371	LS372	LS485	LS492

Sample Dual-Language 8TAP (Spanish & German)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	LG203	LG204	LG371	LG372
EN102	LN380	SS202	CES1	CES2	CES3	LN490
PL100	SS201	CSC	CSC	CSC	LS475	LS476
HI108*	LS203*	LS204*	LS371	LS372	LS485	LS492
			HI302	IT305		

Sample Area Studies 8TAP (Latin America)

4th Cl.	3rd Class		2nd Class		1st Class	
Spring	Fall	Spring	Fall	Spring	Fall	Spring
MA104	MA206	PY201	PL300	SS307	MX400	LW403
PH205	SCIENCE	EV203	HI302	IT305	CSC	CSC
EN102	EV365	EV373	CES1	CES2	CES3	SS366
PL100	SS201	SS202	SS384	HI348	CSC	LN490
HI108*	LS203*	LS204*	LS371	LS372	LS483	LS484

*Basic language (203/204) and Regional History (HI108) courses related to a cadet's assigned language/region do not count toward the major.

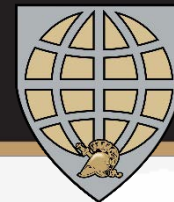




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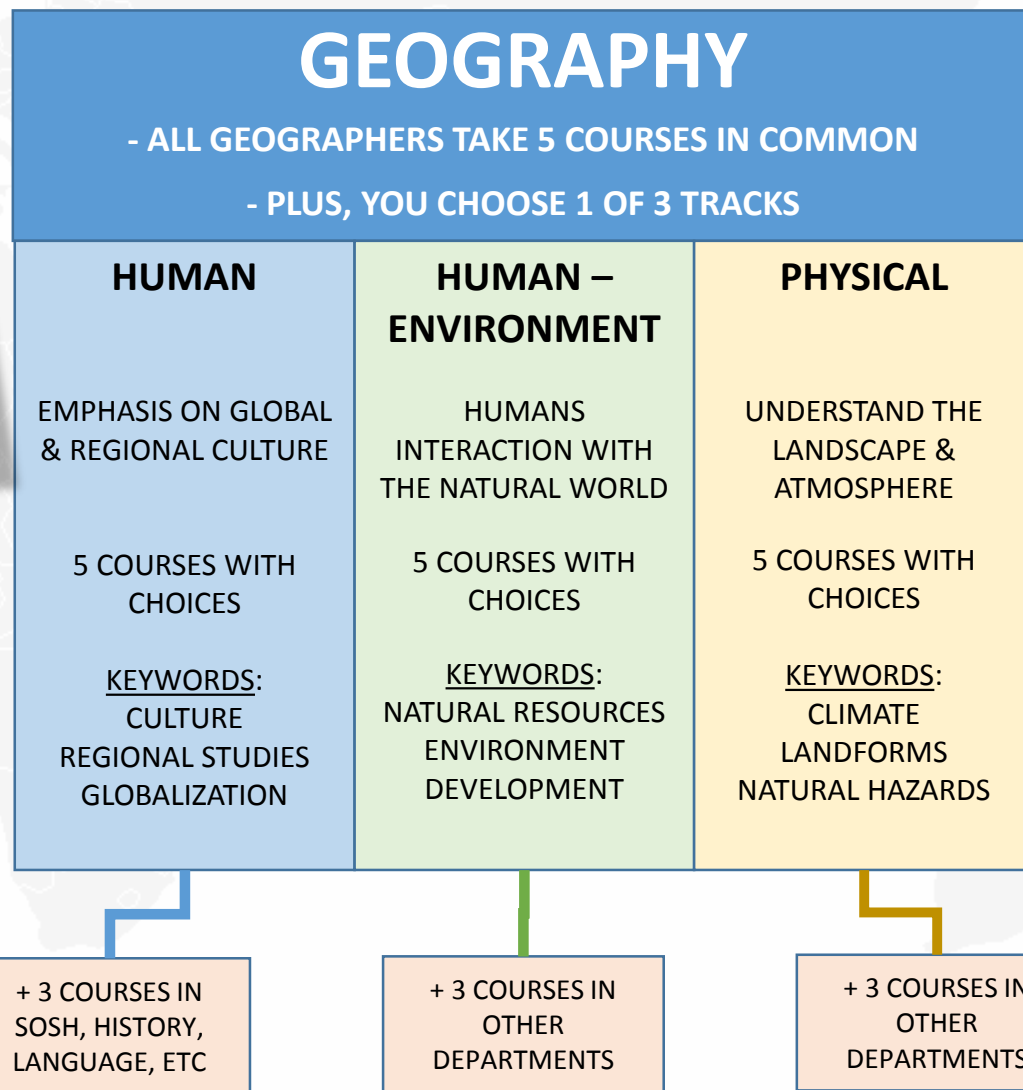
Geography & Environmental Engineering (G&EnE)

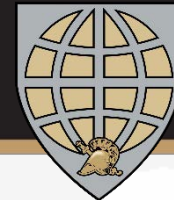
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ToC



Geography is a great major if you're interested in the cultures and human patterns of the World, the natural landscape, resources, international affairs, or environmental issues. Our majors can focus either on social sciences or natural sciences and we pride ourselves on giving you the most choice possible. We have three tracks in the major, shown at right...

Did you grow up looking at maps and thinking about other regions of the world? Are you fascinated by other cultures? Do you love the outdoors and the natural world? Do you want a broad understanding of the world to help your Army and post-Army career?





ADVANTAGES OF MAJORING IN GEOGRAPHY:

CHOICE

- YOU HAVE CHOICE WITHIN YOUR TRACK
- PLUS, SOME OPTIONS HAVE 20+ CHOICES OUTSIDE THE DEPT. SO YOU CAN PURSUE YOUR INTERESTS

ENGINEERING SEQUENCE

- PHYSICAL & HUMAN-ENVIRONMENT TRACKS GET THE ENVIRONMENTAL ENGINEERING SEQUENCE
- HUMAN TRACK CHOOSE THEIR PREFERRED SEQUENCE

AIADS & STUDY ABROAD

- WE HAVE LOTS OF AIADS EACH SUMMER, INCLUDING MULTIPLE TRIPS OVERSEAS
- MANY OF OUR MAJORS DO STUDY ABROAD

HONORS & DOUBLE MAJORS

- WE HAVE A 2-COURSE HONORS SEQUENCE
- MANY OF OUR MAJORS DOUBLE MAJOR

Courses in Our Major Include:

Geography of Global Cultures	Land-Use Planning
Geography of Asia	Environment & Development
Geography of Europe	Climatology
Geography of Latin America	Geomorphology
Geography of Africa	Meteorology
Geography of the Middle East	Geographic Info. Systems
Geography of North America	Military Geography
Urban Geography	

RESEARCH & OUTREACH:

Center for the Study of Civil-Military Operations
Center for the Study of Languages, Cultures, and Regional Studies
African Environmental Sustainability Project

"I could not have majored in a better topic than environmental geo to be a platoon leader in Afghanistan."

- '09 GRAD, INFANTRY

"(I use) cultural geography to relate to people better, especially working in a global company."

- '03 GRAD NOW IN THE BUSINESS SECTOR



What is EV Science?

- An integrative, holistic, science based, 40-course major

What do you study?

- Natural science (biology, ecology, geology, meteorology) in depth so that you can minimize environmental degradation and promote sustainability

Who should study EV Science?

- You like science
- You care about nature and preserving wild places
- You want to be a problem solver for some of the most difficult, challenging problems currently facing our world



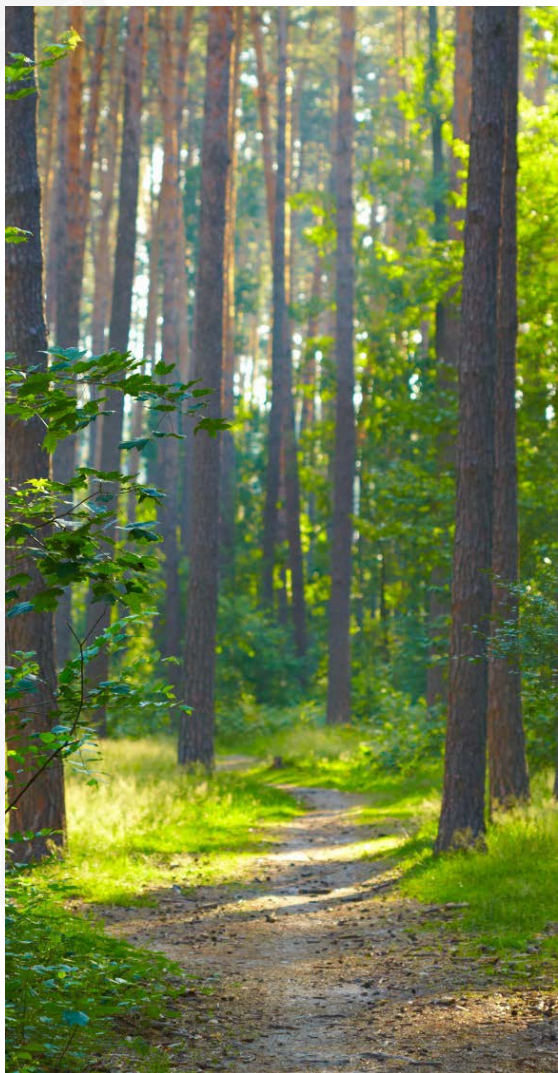
Join us in **ENVIRONMENTAL SCIENCE**

[Return to LoM](#)





What courses would I take as an Environmental Science major?



FOUNDATION COURSES

Complete the following 4 courses:

EV210 Water Science
EV388a Physical Geology
EV471 Ecology
EV487 Environmental Security

TOOLS ELECTIVE

Complete **one** of the following courses:

CH387 Human Physiology
EV377 Remote Sensing
EV398 Geographic Information Systems

DEPTH ELECTIVES

Complete **two** of the following courses:

CH383 Organic Chemistry I
CH384 Organic Chemistry II
EV391a Land Use Planning
EV391b Environmental Geology
EV396 Environmental Biology
EV398 Geographic Information Systems
XS391 Environmental Chemistry

ATMOSPHERE COURSES

Complete **one** of the following courses:

EV387 Meteorology
EV389b Climatology

COMPLEMENTARY SUPPORT COURSES

Complete the following course:

EV365 Geography of Global Cultures

Complete **one** of the following courses:

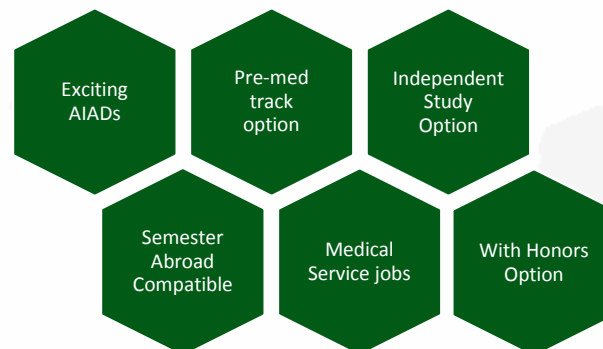
CH275 Biology
CH375 Advanced Biology

Complete **one** the following courses:

CH457 Microbiology
CH473 Biochemistry
MA205 Calculus II
PH206 Physics II
MA376 Applied Statistics

EV SCIENCE FIELD ELECTIVES

Complete **two** from 40+ different options





What is EV Engineering?

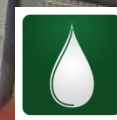
- An ABET accredited 43-course engineering major that applies science and engineering principles to protect human health

What do you study?

- Treatment methods to provide clean water for drinking, clean air for breathing, and to clean wastewater so its discharge does not harm the environment

Who should study EV Engineering?

- You are concerned with the environment around you
- You see yourself as a problem solver
- You are interested in the practice of engineering and want to take the first step towards a Professional Engineer's license





What courses would I take as an Environmental Engineering major?

FOUNDATION COURSES

Complete the following 13 courses:

EV301 EV Science
EV388a Physical Geology
EV394 Hydrogeology
EV396 EV Biology
EV397 Air Pollution Engineering
EV400 EV Engineering Design
EV401 Physical & Chemical Treatment
EV402 Biochemical Treatment
EV481 Water Resources
EV488 Solid & Hazardous Waste
EV490 Advanced EV Engineering Design
MC311 Thermal-Fluid Systems I
XS391 EV Chemistry

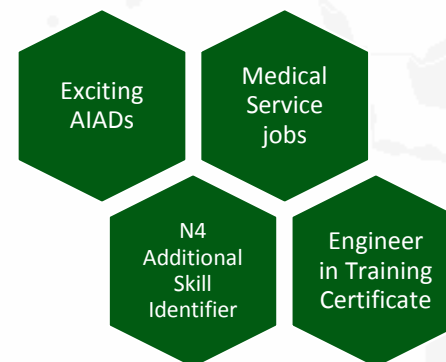
COMPLEMENTARY SUPPORT COURSES

Complete the following 3 courses:

PH206 Physics II
MA366 Applied Engineering Math
EE301 Electrical Engineering

EV ENGINEERING FIELD ELECTIVES

*Complete **three** from 24 different options*



Real-world problems.

Your solutions needed.



#4 in Best Engineering Jobs

U.S. News & World Report, 2016



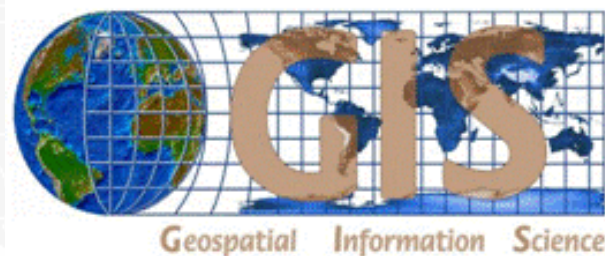


The Geospatial Information Science Program uses a hands-on approach to teach the science behind the technologies that locate, measure, quantify and analyze geographic information.



The Geospatial Information Science Program has been designated as a National Center of Academic Excellence and is accredited by the United States Geospatial Intelligence Foundation.

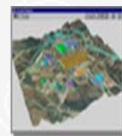
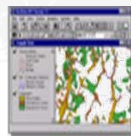
The military increasingly relies on geospatial technology and data to achieve information dominance on the battlefield. This includes the Global Positioning System (GPS), satellite imagery, real-time force tracking, sensor integration, and highly technical geospatial databases.



“Because the uses for geospatial technology are so widespread and diverse, the market is growing at an annual rate of almost 35 percent, with the commercial subsection of the market expanding at the rate of 100 percent each year.” (Geospatial Information & Technology Association) – US Department of Labor Site 2015.

To dominate on the battlefield, the Army’s fighting forces depend on leaders who understand the capabilities and applicability of geospatial technologies. Every branch in the Army uses some form of geospatial information for operations.

Majoring in **Geospatial Information Science** provides you, a future Army Officer, the knowledge to use these tools when leading soldiers in our high-tech digital Army.



Geospatial technology is one of the leading growth industries over the next decade according to the U.S. Department of Commerce. Geospatial technology is an integral component of nearly every business and most government agencies at the local, state and federal levels.

A major in **Geospatial Information Science** allows you to excel in this field and prepares you for graduate school in several disciplines, or future positions inside and outside of government service.



Courses in the GIS Major

GEOGRAPHY FOUNDATION

- EV365 Geography of Global Cultures

FUNDAMENTALS OF GIS (TAKE ALL THREE)

- EV377 Remote Sensing
- EV378 Computer Cartography
- EV398 Geographic Information Systems

SPATIAL DATA ACQUISITION (SELECT ONE)

- EV379 Photogrammetry
- EV380 Principles of Surveying

ADVANCED SPATIAL DATA ANALYSIS (TAKE BOTH)

- EV477 Advanced Remote Sensing
- EV498 Advanced Geographic Information Systems

INTEGRATIVE EXPERIENCE

- EV482 Military Geography

TWO ELECTIVES

THREE COMPLIMENTARY SUPPORT COURSES

GIS HONORS MAJOR

TWO-COURSE MINIMUM REQUIREMENT:

1. EV489A - Independent Study in Geospatial Information Science
2. One additional course from the GIS "Free Electives" list

What you gain from being a GIS Major

As a Cadet

Geospatial Information Science courses are taught with extensive hands-on use of digital technology in the Geographic Science Laboratory (GSL) and in the field. Cadets use GPS, view and analyze satellite imagery, build map databases and produce maps with state of the art hardware and software.

As an Officer

*Successful GIS Majors will be designated with the Army Skill Identifier 3Y
"Space Activities"*

*Successful GIS Majors that branch
Corps of Engineers will be designated
with the Army Skill Identifier W2
"Geospatial Engineer Officer"*

Find out more about GIS from our faculty

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MAJ Darren Kerr
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MAJ William Powell
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UNITED STATES MILITARY ACADEMY
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History (Hist)

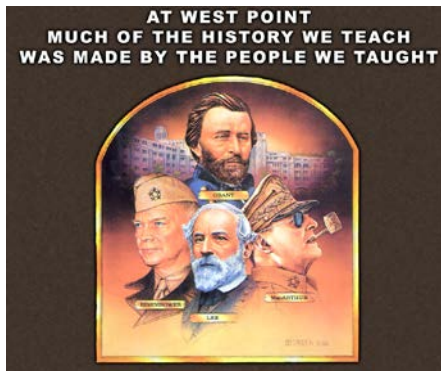
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Wisdom through History



"History is a guide to navigation in perilous times. History is who we are and why we are the way we are."
~ David McCullough



In the Department of History, we believe that what you research and write changes who you are and makes you a better officer. History combines the careful analysis of evidence with compelling storytelling. It is much more than facts on a timeline. As R.G. Collingwood once wrote: "Nothing capable of being memorized is history." History majors hone their abilities to think rigorously and communicate with clarity, skills that are essential to success for any officer. Plus, it's interesting. History is not a compilation of facts in a book. It is war, nations, race, gender, sexuality, sports, rock and roll, film, and every other human activity. You'll love our classes!

The Army needs historically-minded officers.

Majoring in history allows you to:

- Learn about the profession of arms by studying military history.
- Learn about your society and culture by studying American history.
- Improve your understanding of foreign cultures by studying international history.
- Develop the analytical and critical thinking skills needed to lead your Soldiers in a complex environment.

"To be a successful soldier, you must know history."

GEN George S. Patton, Jr.



The History Department affords unique opportunities.

As a history major, you can:

- Tailor your academic program to meet your personal interests.
- Travel on one of our many staff rides abroad or within the U.S.
- Join the editorial staff or submit an article to be published in *Report*, our undergraduate history journal.
- Earn membership in the national history honor society, Phi Alpha Theta.
- Study battles on the ground on which they were fought.

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For more information, contact MAJ Rory McGovern at rory.mcgovern@usma.edu or visit him in TH157C.



The History Major



Honors History Major with Thesis

- 5 in-stem electives
- 2 out-of-stem electives
- HI301: Military History to WWI
- 1 HI400 series elective
- 1 semester foreign language (LX371)
- 1 Capstone Colloquium (HI498)
- 1 Capstone Senior Thesis (HI499) w/ A- or higher for honors credit
- 2 complementary support courses
- 3.0 QPA in core; 3.5 in History

History Major with Thesis

- 5 in-stem electives
- 2 out-of-stem electives
- HI301: Military History to WWI
- 1 semester of foreign language (LX371)
- 1 Capstone Colloquium (HI498)
- 1 Capstone Senior Thesis (HI499)
- 2 complementary support courses

History Major without Thesis

- 5 in-stem electives
- 2 out-of-stem electives
- HI301: Military History to WWI
- 1 semester foreign language (LX371)
- 1 Capstone Colloquium (HI498)
- 2 complementary support courses

Step 1: Choose between honors, thesis, and without thesis programs.

Step 2: Choose a primary stem and select 5 electives from your primary stem.

Step 3: Choose two history electives from outside of your primary stem (see courses at left).

Step 3a: If an honors major, choose one 400-series elective in addition to all courses previously selected.

Step 4: Work with your DAC to choose two complementary support courses that support your unique research interests.

Step 5: Choose one of more than 30 subject fields for your senior colloquium, HI498. For honors majors and thesis majors, this will reflect your choice for HI499 as well.

Step 6: Ensure one of your electives qualifies as an integrative experience.

Step 7: Sign up for one of our exciting staff rides and/or individual research opportunities!

American History Stem	International History Stem	Military History Stem
<p><u>HI340</u>: Colonial America</p> <p><u>HI369</u>: American Frontiers</p> <p>*<u>HI372</u>: U.S. Foreign Relations since 1898</p> <p><u>HI390</u>: Early National America</p> <p><u>HI394</u>: Revolutionary America</p> <p>*<u>HI395</u>: Civil War America</p> <p>*<u>HI396</u>: Making of Modern America, 1877-1945</p> <p>*<u>HI397</u>: Cold War America</p> <p>*<u>HI398</u>: Society and Culture in American History</p>	<p><u>HI337</u>: China from Central Kingdom to Communist Rule</p> <p><u>HI339</u>: The Modern Middle East</p> <p>*<u>HI341</u>: The Age of Exploration</p> <p>*<u>HI342</u>: The British Isles since 1688</p> <p><u>HI343</u>: Modern Germany</p> <p>*<u>HI344</u>: Modern Diplomacy</p> <p><u>HI345</u>: Modern Africa</p> <p>*<u>HI346</u>: Modern South Asia</p> <p>*<u>HI347</u>: Asian Warfare and Politics</p> <p>*<u>HI348</u>: Modern Latin America</p> <p><u>HI349</u>: The Middle East to 1798</p> <p><u>HI361</u>: Medieval Europe</p> <p>*<u>HI364</u>: Modern Western Europe since 1789</p> <p><u>HI365</u>: The Ancient World</p> <p><u>HI367</u>: Imperial and Soviet Russia</p> <p>*<u>HI368</u>: Modern Central and Eastern Europe, 1896-1989</p> <p>*<u>HI391</u>: World Religions</p>	<p><u>HI338</u>: Warfare in the Age of Revolutions</p> <p><u>HI355</u>: Warfare in the Age of Industrialization</p> <p><u>HI356</u>: War at Sea and in the Air</p> <p>*<u>HI357</u>: Warfare since 1945</p> <p>*<u>HI358</u>: Strategy, Policy, and Generalship</p> <p>*<u>HI359</u>: The Era of the Second World War</p> <p><u>HI370</u>: Ancient & Medieval Warfare</p> <p><u>HI376</u>: Early Modern Warfare</p> <p>*<u>HI381</u>: Unconventional Warfare</p> <p>*<u>HI385</u>: War and its Theorists</p>
<p>Department-Level Courses (applicable to all stems)</p> <p>*<u>HI460</u>: Senior Faculty Course</p> <p>*<u>HI460A</u>: Senior Faculty Course</p> <p>*<u>HI461</u>: Topics in Gender History</p> <p>*<u>HI462</u>: Science and Technology</p> <p>*<u>HI463</u>: Race, Ethnicity, Nation</p> <p>*<u>XH405</u>: The Holocaust and its Legacy</p> <p>*<u>XH415</u>: Genocide and Ethnic Cleansing</p>		<p>* = a possible Integrative Experience</p>

For more information, contact MAJ Rory McGovern at rory.mcgovern@usma.edu or visit him in TH157C.



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Law (D/Law)

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Department of Law Law & Legal Studies Major

International Law - Choose 3 of 20

EV365 Geography of Global Cultures
 EV371 Geography of Russia
 EV372 Geography of Asia
 EV373 Geography of Latin American
 EV375 Geography of Africa
 EV376 Geography of Middle East
 EV386 Geography of Europe
 HI344 Modern Diplomacy
 HI372 U.S. Foreign Relations since 1988
 HI391 World Religions
 MG390 Negotiations for Leaders
 SS366 Comparative Politics
 SS381 Political & Cultural Anthropology
 SS385 Comparative Economic Politics
 SS465 Terrorism: New Challenges
 SS466 Advanced Terrorism Studies
 SS473 American Foreign Policy
 SS483 National Security Seminar
 SS486 International Security Seminar
 XH467 Winning the Peace

OR

American Law & Society - Choose 3 of 16

HI390 Early National America
 HI394 Revolutionary America
 HI395 History of Civil War America
 HI396 Making of Modern America
 HI398 Society & Culture in Amer History
 PL372 Sociology of the Family
 PL377 Social Inequality
 PL393 Criminology
 PY359 Logical Reasoning
 PY363 Political Philosophy
 SS373 The American Presidency
 SS379 Legislative Politics
 SS386 Political Thoughts & Ideas
 SS464 Homeland Security
 SS472 The American State & The Soldier
 SS483 National Security Seminar

"All of us need to be reminded that the Federal Government did not create the States; the States created the Federal Government."

Ronald Reagan

"Nearly all men can stand adversity, but if you want to test a man's character, give him power."

Abraham Lincoln



"As long as I have any choice, I will stay only in a country where political liberty, toleration, and equality of all citizens before the law are the rule"

Albert Einstein

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Law & Legal Studies Major
Class of 2020

Department of Law



Why aren't you a law major?

Prof Mark Wellman

mark.wellman@usma.edu

Department of Law Law & Legal Studies Major

STEM Depth - Choose 1 of 2

- IT305 Military IT Systems
- IT355 Advanced Military IT Systems

Required Law Courses Must take all 3

- LW310 Introduction to Legal Studies
- LW474 Law of War
- LW495 Jurisprudence and Legal Theory

Law Elective Courses - Choose 7 of 11

- LW410 Comparative Legal Systems
- LW461 Civil Rights
- LW462 Cyber Law
- LW472 Criminal Law
- LW473 Environmental Law
- LW475 Advanced Constitutional Law
- LW476 Advanced Law of Armed Conflict
- LW481 International Law
- LW482 National Security Law
- LW488 Business Law
- LW490 Special Topics

Three electives of choice in either
Social Sciences, History, Behavioral
Sciences & Leadership or Geography &
Environmental Engineering.

** Honors Thesis Program

- LW498 Thesis I: Proposal & Research
- LW499 Thesis II: Paper & Defense

** Not required for major.

Department of Law AIAD Opportunities

Staff Rides

Civil Rights
Washington, DC - Selma, AL - Atlanta, GA -
Memphis, TN

Far East War Crimes
Cambodia - Vietnam - China - Japan

Department of Defense

The Judge Advocate General
Pentagon - Washington, DC

National Security Agency
Fort Meade, MD

Law Enforcement

New York Police Department New York, NY

Special Victims Unit Dallas-Ft Worth, TX

United States Secret Service Washington, DC

Legal Internships

United States District Court New York, NY

New York District Attorney New York, NY

United States District Court New York, NY

New York District Attorney New York, NY

Marsh McLennan Law Firm New York, NY

Latham & Watkins Law Firm New York, NY

Prosecutor's Office Your home town, USA

Legislative Branch

US House of Representatives Washington, DC
United States Senate Washington, DC

Department of Law Our alumni do amazing things!



Hon. Patrick Murphy

Assistant Professor
2000-2002

Member of Congress
from Pennsylvania
2007-2011

Serves as
Under Secretary of the
Army

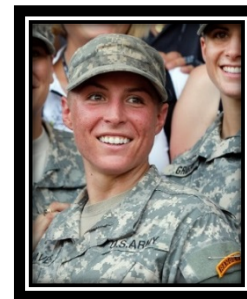
CPT Shaye Haver

Law Major

Class of 2012

One of the first
two women to graduate
U.S. Army RANGER
School.

Awarded RANGER tab
Aug 2015.



2LT Harold Earls

Law Major

Class of 2015

Founded non-profit to
combat PTSD; among First
Active Duty Soldiers to
ever climb Mt. Everest.
Reached the summit on
20 May 2016.



Why aren't you a law major?

Prof Mark Wellman

mark.wellman@usma.edu



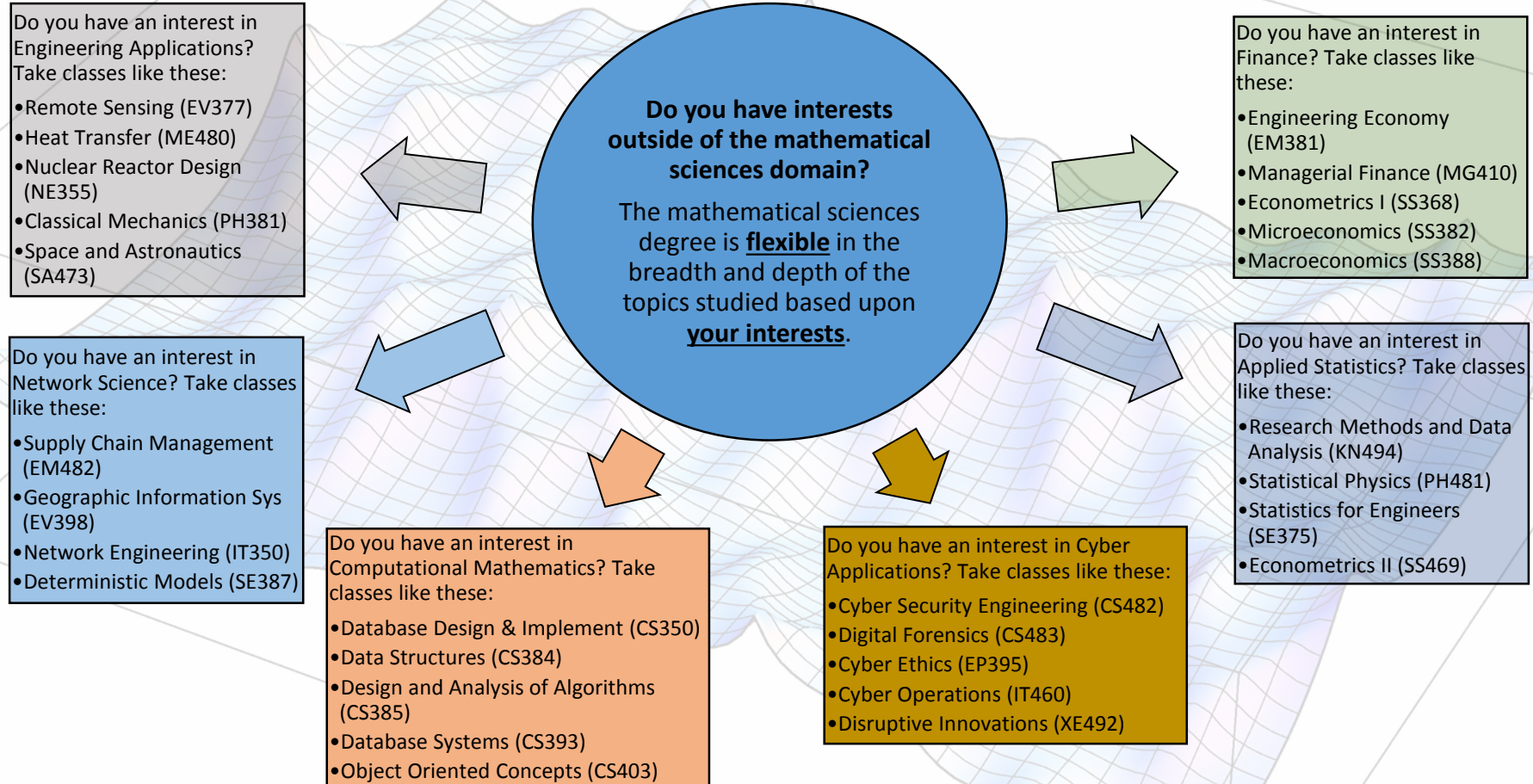
UNITED STATES MILITARY ACADEMY
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Mathematical Sciences (Math)

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Mathematical Sciences

The study of mathematics provides **quantitative** and **analytical** reasoning skills that are applicable to all of the sciences and engineering. As a mathematical sciences major, cadets will take classes in topics that include Calculus, Linear Algebra, Analysis, Statistics, Modeling, and other special topics. Also, each cadet will conduct research on a topic of their choosing while being advised by a team of junior and senior faculty.



Where can the study of mathematics applications take me in my summers?

There are many opportunities for AIADs that the Mathematical Sciences Department sponsors and others that it executes in conjunction with other disciplines. Some of the recent examples are listed below:

- Disease Biophysics Group – Harvard University (Boston and Seoul)
- NSBE Summer Engineering Experience for Kids–(Various Locations)
- Computational Mathematics Research – (Costa Mesa, CA)
- Player Management and Data Analytics – Florida Panthers (Fort Lauderdale, FL)
- Defense Manpower Data Center – NPS (Monterey, CA) [Return to LoM](#)

Operations Research:

The application of advanced analytical methods to help make better decisions.

Major Courses (10 Courses)

- Linear Algebra (MA371)
- Applied Statistics (MA376)
- Nonlinear Optimization (MA381)
- Mathematical Statistics (MA476)
- Linear Optimization (MA481)
- Decision Analysis (SE385)
- Systems Design I (SE402)
- Systems Design II (SE403)
- Operations Research Elective I
- Operations Research Elective II

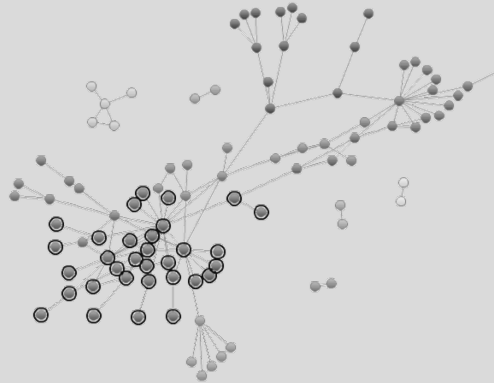
Complementary Support (3 Courses)

- IT/Cyber II (IT305)
- Simulation (EM381 or SE485)
- CSC Elective

Engineering Sequence (3 Courses)

- Engineering Design (SE301)
- Deterministic Models (SE387)
- Probabilistic Models (SE388)

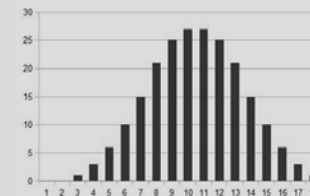
Industrial Engineering



Management Science

Possible Electives

Data Structures (CS384)
Artificial Intelligence (CS486)
Supply Chain Eng & Info Mgmt (EM482)
Introduction To Discrete Math (MA372)
Mathematical Analysis I (MA387)
Sabermetrics (MA388)
Fundamentals Of Network Science (MA394)
Graph Theory And Networks (MA461)
Combinatorics (MA462)
Computer Aided Systems Eng (SE370)
Complex Systems Architecture (SM440)
Microeconomics (SS382)
Macroeconomics (SS388)
Econometrics II (SS469)



Analytics

Relevant
Innovative
Interdisciplinary

Where can the study of operations research take me in my summers?

There are many opportunities for AIADs that the Mathematical Sciences Department sponsors and others that it executes in conjunction with other disciplines. Some of the recent examples are listed below:

- Disease Biophysics Group – Harvard University (Boston and Seoul)
- NSBE Summer Engineering Experience for Kids (Various Locations)
- Hromadka Associate's Research – (Costa Mesa, CA)
- Player Management and Data Analytics – Florida Panthers (Sunrise, FL)



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Military Instruction(DMI)

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UNITED STATES MILITARY ACADEMY
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DEFENSE & STRATEGIC STUDIES



Class of 2020 “*With Vision We Lead*”



UNITED STATES MILITARY ACADEMY
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Defense & Strategic Studies

Intellectually preparing Cadets for conflict

DSS Core Curriculum

DS320 Landpower

DS370 Strategy and Policy

DS495 Research Methods

DSS Track Course x 2

Approved Elective x 2

L(X)300 3rd Foreign Language (or)

DS350 Persuasive Communication

DS345 Military Innovation (or)

DS455 Comparative Defense Policy

DS496 Strategic Studies Thesis (or)

DS497 Strategic Studies Capstone

Track 1 – Irregular Warfare

DS360 Special Operations, Low Intensity Conflict

DS460 Insurgency and Counterinsurgency

Track 2 – War Sustainment

DS385 Sustaining the Force

DS485 Sea and Air Power

Track 3 – Counterterrorism

SS465 Terrorism: New Challenges

SS466 Advanced Terrorism Studies

50 Pre-approved Electives

Program Track Flexibility

Dual Major Compatible

For More Information Visit: <http://www.usma.edu/dmi/>

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Additional Resources: www.mwi.usma.edu

Head Department Academic Counselor: MAJ Curtis Kimbrell, Curtis.Kimbrell@usma.edu



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Defense & Strategic Studies

Intellectually preparing Cadets for conflict

Major in Defense & Strategic Studies

➤ Relevant

DSS educates future leaders to solve complex problems in an uncertain world. DSS Cadets study national policy, military strategy, operational art, and the use of force to understand, analyze and effectively communicate the relation of tactical action to national policy.

➤ Flexible

Choose from three curricular tracks and over 50 pre-approved electives. DSS requires only three mandatory courses and caters to Cadet research interests and preferences. DSS works closely with departments across USMA to provide a streamlined process for dual majors and minors.

➤ Fun

Participate in AIADs with SOCOM, FBI, ATF, DEA and others. Join our annual staff ride to Europe over spring break and interact with your British, French and German counterparts. Engage with your peers at other elite institutions like Princeton, Yale, and NYU for crisis simulations, conferences and symposia.

DSS Faculty

The eight rotating members of the DSS faculty, led by a permanent Academy Professor, graduate from top tier universities such as Harvard, Yale, Georgetown, Columbia, the Naval Postgraduate School, Tufts, Johns Hopkins, and Princeton. This relatively small, quality faculty has earned West Point's prestigious Aggar Award for Teaching Excellence in both 2013 and 2014.

The Modern War Institute Speaker Series

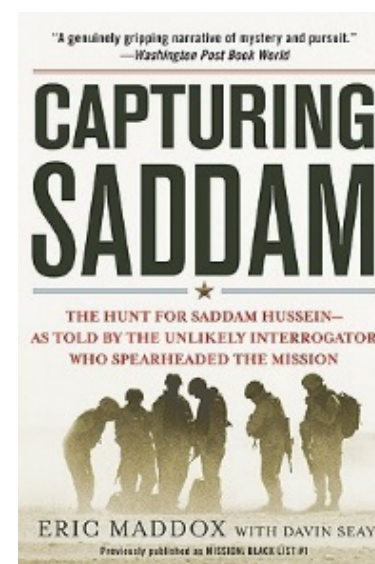
The Modern War Institute serves as a national resource that rigorously studies modern war by delivering tactical, operational, and strategic research that moves the boundaries of current military and academic knowledge. To accomplish this end, the MWI hosts an array of experts from across the military, business, government and academia to lead thoughtful discussion and deliver meaningful presentations to Cadets and faculty.

War Council Panels

MWI hosts panels throughout the academic year that drive meaningful conversation about relevant and current national security issues. Panels are multi-disciplinary and regularly include notable authors, speakers and subject matter experts.

A DSS Graduate...

- Solves complex problems.
- Understands national policy, military strategy and operational art.
- Effectively communicates the relation of tactical action to national policy for all audiences.



MWI Speaker Series

Eric Maddox

Tuesday, 6 September

Comm's Hour, Robinson Auditorium

"The state which separates its scholars from its warriors will have its thinking done by cowards and its fighting done by fools." - Sir William Francis Butler



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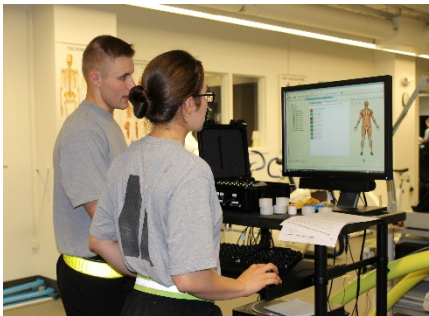
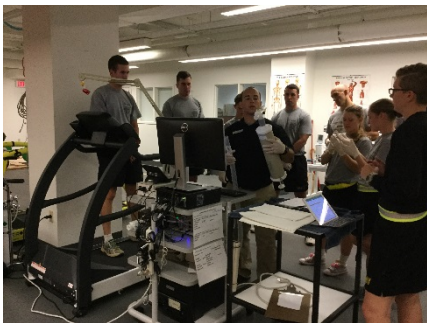
Physical Education (DPE)

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Kinesiology Major

Kinesiology is a broad, interdisciplinary field of study that includes specialties such as exercise physiology, biomechanics, motor control, nutrition, exercise psychology, and exercise testing and prescription. The Kinesiology major covers a wide spectrum of performance issues involving muscular and cardiovascular physiology, energy balance, exercise adherence, neuromuscular control, metabolic regulation, biomechanical aspects of movement, eating disorders, physical development and adaptation to training.



Required Courses

KN355 Functional Anatomy
KN360 Biomechanics of Human Movement
KN365 Nutrition for Performance
KN455 Psychology of Exercise
KN460 Exercise Physiology
KN465 Motor Control and Learning
KN470 Fitness Assessment and Prescription
KN480 Theory of Advanced Performance
CH375 Advanced Biology
CH387 Human Physiology

Honors Courses

PL361 Research Methods I
KN495 Honors Thesis

Complementary Support Course Options

CH383 Organic Chemistry I
CH384 Organic Chemistry II
CH385 Introduction to Cell Biology
CH460 Human Anatomy
CH473 Biochemistry

PL361 Research Methods I
PL390 Biological Psychology
PL391 Sensation/Perception/Psychology/Physiology
PL 394 Anthropometrics and Biomechanics

PY350 Philosophy of Science



Graduates of the Kinesiology Program will be able to :

- Identify the anatomical structures that help determine physical competency and human movement
- Describe the principles of human physical development and adaptation
- Describe the musculoskeletal principles of work capacity
- Identify the principles of the mechanics of human movement
- Describe the principles of exercise psychology and their application to fitness
- Apply the principles of fitness assessment and exercise prescription
- Describe the nutritional concepts supporting the energy demands of physical training



Program Requirements

A Kinesiology major must complete 24 core courses and a three-course engineering sequence.

The major requires 10 courses plus three complementary support courses chosen by the cadet from the Departments of Behavioral Sciences and Leadership, Chemistry and Life Sciences, or English and Philosophy.

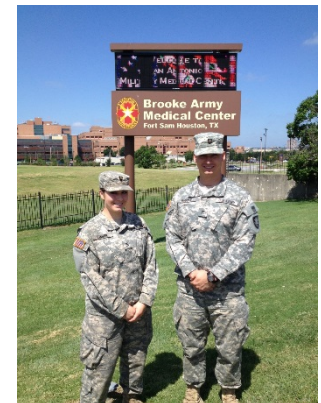
Honors Program

In order to receive a Kinesiology with Honors degree a cadet must also:

Complete PL361 (Research Methods I) and KN 495 (Honors Thesis)

Attain a minimum APSC of 3.0 in the core curriculum

Attain a minimum APSC of 3.5 in the Kinesiology curriculum





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Physics & Nuclear Engineering (PANE)

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PHYSICS



Physics is the study of all matter, how it moves, and how it interacts. The goal of physics is to understand the universe at all scales; from the smallest subatomic particles to the largest galaxy clusters.

Army Physics Opportunities

Cadets who study advanced physics can serve the Army as:

- Maneuver Commanders
- Battle Staff Officers
- Astronauts
- Engineers
- Doctors
- Army Scientists
- Nuclear Weapons Experts
- Acquisition Project Managers
- Space Operations Specialists
- Intelligence Specialists

Graduate School Opportunities

Masters and PhD graduate level Education opportunities in physics:

- Advanced Civil Schooling (ACS)
- Naval Postgraduate School (NPS)
- Air Force Institute of Technology (AFIT)



A Physics Major Can...

1. Apply the laws of physics to real-world situations,
2. Formulate mathematical models of physical systems,
3. Solve complex equations and provide physical interpretations of mathematical results,
4. Perform research, and uphold scientific standards,
5. Communicate technical and complex information clearly and logically,
6. Gain entry graduate school.

AIAD

Academic Individual Advanced Development

You can be teamed with scientists or officers located at Army and other national research laboratories.

Previous AIAD work has been conducted at:

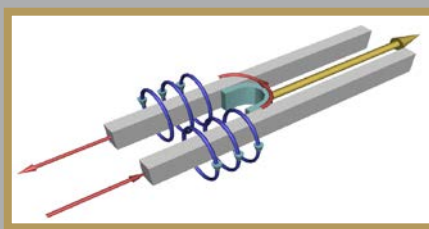
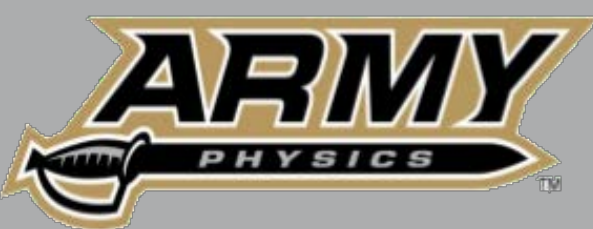
- Livermore Labs, California
- Los Alamos Labs, New Mexico
- NASA-Johnson Space Flight Center, TX
- White Sands, New Mexico
- Army Research Lab, Maryland
- CERN Accelerator Lab, Switzerland
- MIT-Lincoln Lab, Massachusetts

Army Physics CFDs

Career Field Designations (CFDs) that require advanced physics specialists:

- FA40: Space Operations
- FA52: Nuclear & Counter proliferation
- FA51: Acquisition
- FA47: Academy Professor
- FA49: Operational Research & System Analysis

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Physics Major Curriculum (PHY1)

4 th Class Year		3 rd Class Year		2 nd Class Year		1 st Class Year	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
EN101	EN102	EV203	PY201	3CES-1	3CES-2	3CES-3	HI302
MA103	MA104	MA205	MA206	PL300	SS307	MX400	LW403
CH101	PH205 Physics I	PH206 Physics II	MA364 Engineering Mathematics	PH365 Modern Physics	EE301 Fundamentals of Elec. Engin.	PH456 Science and Policy	PH481 Therm. & Stat. Physics
IT105	PL100	SS201	SS202	PH381 Int. Classical Mechanics	PH384 Applied Optics	PH485 Laser Physics	PH486 Experimental Physics
HI105	HI108	DFL1	DFL2	PH382 Intermediate Electrodynamics	XE383 Electromagnetic Fields & Waves	PH484 Int. Quantum Mechanics	PH487 Adv. Quantum Mechanics
					PH482 Adv. Classical Mechanics		

Honors in Physics (PHY1H)

The honors program in physics entails the completion of two courses beyond the 14-course major. PH489 is required as one of these two courses and the other may be selected from the following list:

MA371 Linear Algebra
 MA376 Applied Statistics
 MA385 Chaos And Fractals
 MA386 Intro To Numerical Analysis
 MA396 Num Meth Solutions Diff Eqns
 MA476 Mathematical Statistics
 MA484 Partial Diff Equations

MA485 Applied Complex Variables
 NE474 Radiological Safety
 PH472 Space And Astrophysics
 PH489A Adv Indiv Study In Physics
 PH495 Special Topics In Physics
 SA473 Introduction To Astronautics

Cadets must also attain an APSC of at least 3.0 in the core curriculum and 3.5 in the major.

Questions?

Dr. Pfenning

938-6468
 Michael.Pfenning
 @usma.edu

Dr. Harrell

938-012
 Lee.Harrell
 @usma.edu

**USMA Department of Physics and
 Nuclear Engineering Web Page**

<http://www.usma.edu/pne/SitePages/Home.aspx>

Nuclear Engineering Major (NEN1)
(ABET Accredited)
Class of 2020

3rd Term	
NE300	Fund of Nuclear Engineering
4th Term	
MC300	Fund of Engr Mech and Design
NE361	Computational Design in NE
5th Term	
MC364	Mechanics of Materials
MC311	Thermal-Fluid Systems I
NE350	Radiological Engineering Design
PH365	Modern Physics
6th Term	
MA364	Engineering Mathematics
NE355	Nuclear Reactor Engineering
NE474	Radiological Safety
7th Term	
ME480*	Heat Transfer
NE450	Nuclear Weapons Effects
NE452	Instrumentation and Shielding
NE495	Adv Nuclear Sys Design Project I
8th Term	
EE301	Fund of Electrical Engineering
XX - - -	Elective (choose 1 of 15)
NE400*	Nuclear Engineering Seminar
NE496	Adv Nuclear Sys Design Project II

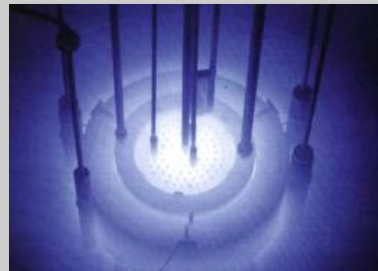
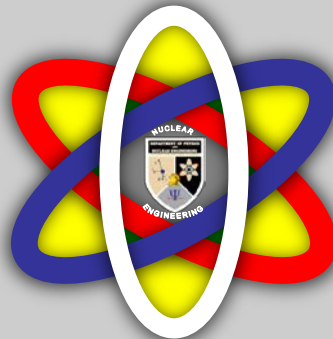
**Nuclear Engineering
Science Major (NES0)**

The NEN0 courses not taken by NES0 cadets are indicated with an * above.

**Nuclear Engineering
Core Engineering Sequence (NE CES)**

NE300	Fund of Nuclear Engineering
NE350	Radiological Engineering Design
NE450	Nuclear Weapons Effects

Nuclear Engineering at West Point

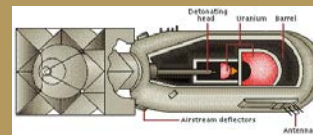


Have you ever wondered...

What is a **dirty bomb**?
Is all radiation harmful? How
do you
protect your
troops and
equipment
from radiation?

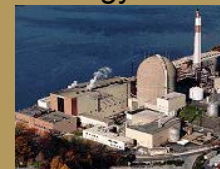


How does a **nuclear
weapon** work?



What is EMP? What are
tactical nuclear weapons?

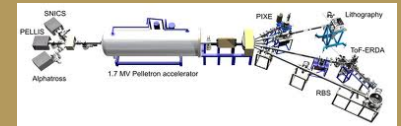
How does a **nuclear power
plant** produce energy?
What is
radioactive
waste?



How can radiation **destroy**
a **tumor** in
your brain
without
surgery and
without
damage to the brain?



What experiments you can
conduct using the P&NE
accelerator?



What
are the
social,
political,
economic,
technological, and safety
implications of **new
technologies**?



***If these aspects of
nuclear energy intrigue
you, consider the nuclear
engineering major!***

Did you know...

President Obama has named **nuclear terrorism** the number one threat to our national security?



The Army has a career field called FA 52, Nuclear and Counterproliferation.

Iran and North Korea

continue



programs despite international pressure.

The Department of Defense is seeking security policy makers and economists that understand nuclear technology.

UN SECURITY COUNCIL Resolutions

"Proliferation of nuclear, chemical, and biological weapons, as well as their means of delivery, continues to constitute a threat to international peace and security." -- S/RES 2050: June 2012, DPRK (North Korea)



"Within its nuclear programme, Iran has developed the capability to enrich uranium to a level of up to 20% U-235, declared to be for use as fuel in research reactors...." – IAEA Iran Report: November 2011

The US Army Nuclear Counter-WMD Agency helps to address threats and to



manage the FA 52 Career Field.



Relevance

"Al Qaeda and their extremist allies are seeking nuclear weapons. We must assume they would use such weapons if they managed to obtain them." -- Nuclear Posture Review Report, April 2010

As an officer you can...

- be a more effective leader in a nuclear and radiation environment (to include the "dirty bomb" environment).
 - participate in homeland defense as part of nuclear and radiation task forces with the CIA, FBI, DOE, NNSA, or DOD.
 - work with antiterrorist teams in radiation detection and counter-proliferation.
 - detect, monitor, and account for weapons of mass destruction.
 - work in health physics and nuclear medicine.
 - participate on research teams in the nuclear weapons field.
 - develop national nuclear policy.
 - participate in nuclear treaty verifications.
- ... and so much more!

Our exceptional resources include:

- A nuclear sub-critical assembly
- Radiation detectors and sources
- A Pelletron 5SDH particle accelerator

Academic Individual Advanced Development (AIAD)

You can be teamed with officers or scientists located at Army and national research laboratories. Previous AIAD work has been conducted at:

- Lawrence Livermore Lab, CA
- Los Alamos and Sandia Labs NM
- NASA-Johnson Space Flt Center, TX
- Army Research Laboratory, MD
- Pantex (TX) and Hanford (OR) Plants
- Walter Reed Army Med. Center, MD
- ESRF, France and CERN, Switzerland
- German Bundeswehr Research Center
- IAEA, Austria and ITER, France

QUESTIONS?

Contact:

Dr. Brian Moretti
Allen
938-3182
Brian.Moretti@usma.edu

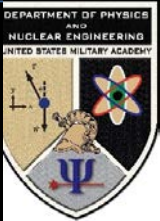
LTC Kenneth
Allen
938-3548
Kenneth.Allen@usma.edu

Visit our SharePoint site at:

<https://collab.westpoint.edu/pne/NEMajor/SitePages/Home.aspx>



**ARMY
WEST POINT**
NUCLEAR ENGINEERING



Introducing the newest major USMA has to offer.....

Space Science Major Space and Missile Defense Program

Reasons to study Space Science at USMA...

Space exploration is exciting...



The universe has peaked curiosity throughout human history...

"The now-ubiquitous and interconnected nature of space capabilities and the world's growing dependence on them mean that irresponsible acts in space can have damaging consequences for all of us."
- 2010 National Space Policy



Missile
Defense is
relevant...



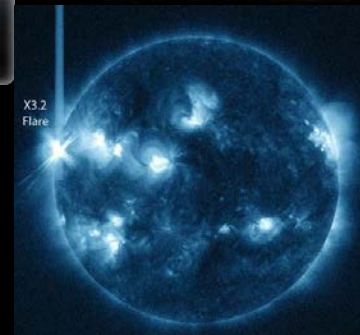
Space is fascinating...



Space is competitive, congested, and contested...



Space is
dangerous...



Space is the final frontier and the ultimate high ground!

[Return to LoM](#)
born to scale



Space Science Major Space and Missile Defense Program

Want more information.....
Talk to your PH205/206 instructor
and/or
LTC Godshall

at
stacy.godshall@usma.edu
Office: BH471C; 845-938-4526



4th Class Yr		3rd Class Yr		2nd Class Yr		1st Class Yr	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
CH101 CHEMISTRY	PH205 PHYSICS 1	PH206 PHYSICS 2	SS202 POL. SCIENCE	PL300 MILITARY LEADERSHIP	SS307 INT'L. RELATIONS	PH456 SCIENCE & POLICY	LW403 LAW
EN101 ENGLISH	EN102 ENGLISH	SS201 ECON.	PY201 PHILOSOPHY	3 COURSE ENGINEERING SEQUENCE			MX400 OFFICER- SHIP
MA103 INTRO TO CALCULUS	MA104 CALCULUS 1	MA205 CALCULUS 2	MA364 ENGINEER MATH	PH ELECTIVE PH365 or PH381	PH384 OPTICS	PH485 LASERS	EV478 MIL. GEO SPATIAL OPERATIONS
HI10_ US HISTORY	HI10_ REGIONAL HISTORY	L_203 LANGUAGE	L_204 LANGUAGE	PH382 ELECTRO- DYNAMICS	EE301 ELEC. ENG.	HI302 MILITARY ART	EV377 REMOTE SENSING
IT105 INFO. TECH.	PL100 PSYCH.	MA206 PROB & STAT	EV203 GEOGRAPHY	SP471 ASTRO- NAUTICS	SP472 SPACE PHYSICS	SP473 ASTRO- NOMY	SP474 ASTRO- PHYSICS

Legend (Space and Missile Defense areas of interest):

Directed Energy	Policy Development
Missile Defense	Space Science
Cyber Operations	



UNITED STATES MILITARY ACADEMY
WEST POINT.

Social Sciences (Sosh)

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WHY STUDY ECONOMICS?

*"One of the things that makes Economics majors so valuable is that the subject teaches one to think in a careful and precise way. The fundamental economic issue is how society decides to allocate its resources: how the costs and benefits of a course of action can be evaluated and compared, and how appropriate choices can be made. A degree in economics gives training in decision making principles, providing a skill applicable in a very wide range of endeavors."*¹

Economists use a multi-disciplined approach to analyze a variety of real world situations such as the global financial crisis, the role of economics in causing and preventing conflict, and how individuals and companies respond to incentives and make money.

As an economics major, you will develop the ability to analyze situations from many different viewpoints and apply a framework to assist you with making the best decisions.

WILL I USE ECONOMICS IN THE ARMY?

Absolutely! Economics is the study of the allocation and optimal use of scarce resources. Furthermore, economics examines the role of individual and organizational incentives in determining the efficient allocation of resources in society. As an economics major, you will understand these important concepts and how they relate to your ability to train, educate, lead, and care for your soldiers. As an Army officer, you will need to manage scarce resources such as time, ammunition, equipment and personnel to efficiently and effectively prepare your unit for combat operations.

Economic expertise also provides a foundation for you to understand the importance of economic actors in triggering, perpetuating, and resolving violent conflict in the world. As Dwight D. Eisenhower once said "No mastery of command can substitute for an intelligent comprehension of the economic goals, the political impulses, the spiritual aspirations that move tens of millions of people. But your greatest opportunity for enduring contribution to America may well be the council table, far removed from war."

-USMA Graduation Address, June 1955

¹ Royal Economic Society, St. Andrews, Fife, U.K., 2005



HOW CAN I FOCUS MY COURSEWORK?

The Economics Major in the Department of Social Sciences offers three primary concentrations:

Public Policy
Mathematical Economics
Economic Applications in Finance

Cadets are not confined to one concentration and are allowed to take courses in all concentrations.

For Economics majors interested in academic research, there are two additional programs:

Economics with Thesis

- Add SS498 Senior Thesis

Economics with Thesis/Honors:

- Add one more economics elective (often SS469)
- Add SS498 Senior Thesis
- Earn an APSC of 3.0 in the core curriculum
- Earn an APSC of 3.5 in the Economics major

Economics

Department of Social Sciences

The master-economist...must be mathematician, historian, statesman, philosopher—in some degree. He must understand symbols and speak in words. He must contemplate the particular in terms of the general and touch abstract and concrete in the same flight of thought. He must study the present in the light of the past for the purposes of the future. No part of man's nature of his institutions must lie entirely outside his regard.

- John Maynard Keynes

Public Policy
Mathematical Economics
Economic Applications in Finance

United States Military Academy at West Point

Contact:

CPT Isaac Wisniewski
Lincoln Hall Room 106, 938-4015
Isaac.wisniewski@usma.edu

Your SS201/251 instructors can also field questions!

www.usma.edu/ssosh/SitePages/Economics.aspx

WHAT COURSES DO I NEED TO TAKE TO BE AN ECONOMICS MAJOR?

COMPLEMENTARY SUPPORT COURSES (3)

- **Calculus II (MA205):** Further develop optimization skills and prepare for success in the rigorous toolbox courses.
- **Mathematics for the Social Sciences (MA367):** Develop mathematical tools essential for further study in economics.
- **CSC #3:** Chosen from a variety of courses across many disciplines; provides breadth of learning based on individual interests

TOOLBOX COURSES (3)

- **Microeconomics (SS382):** Examine the market interaction between consumers and producers as each strives to maximize their benefit.
- **Macroeconomics (SS388):** Study the economic activity of states and nations and the role governments play in promoting prosperity.
- **Econometrics (SS368):** Quantify, test and employ economic models as they apply to real world situations.

INTEGRATIVE ELECTIVE COURSE (1 OF 3)

- **Public Finance (SS387):** Use economic models to solve complex governance challenges such as taxation, spending, and redistribution.
- **Manpower & Labor Econ (SS380):** Examine the nature and institutions of the labor market, to include military manpower.
- **International Economics (SS395):** Understand the economic causes and effects of international trade, policies, and money flows.

INTEGRATIVE EXPERIENCE (CAPSTONE)

Economics of National Security (SS477): Examine defense personnel policies, weapon-system acquisition, and defense budgeting issues along with their economic impact on government and society.

ELECTIVE COURSES (5 OF 16)

SS364	Game Theory
SS380	Manpower & Labor Economics
SS385	History of Economics
SS390	Behavioral Economics
SS394	Financial Statements Analysis
SS395	International Economics
SS461	Industrial Operations
SS462	Econ of Stabilization & Growth
SS463	Investments Theory & Applications
SS469	Econometrics II
SS470	Money and Banking
SS482	Applied Microeconomic Theory
SS487	International Political Economy
SS490D	Colloquium (Economics)
SS494	Principles of Finance

GLOBAL WORK & TRAVEL

The Department of Social Sciences offers a wide range of AIADs. These summer programs allow you to work for Government agencies, non-governmental organizations, US Embassies, or visit places around the world. Past trips and internships include:

Axonix Capital
Japan
Dept. of Treasury
Citi Bank
Hong Kong

Praque
China
NY Fed
Israel
Deutsche Bank
Germany

Goldman Sachs
JP Morgan
Costa Rica
IBM
Mongolia
Morocco
Dept. of Labor

WHAT WILL MY SCHEDULE LOOK LIKE?

Economics Majors will take 13 courses (plus IT305) during their first, second and third class years. Additionally, any engineering sequence fits well with this major. While many schedules differ, here is a typical schedule.

YEARLING YEAR

SS201/251	SS202
CSC: MA205	CSC: MA367
Science 3	MA206
PY201	EV203
LX203	LX204

COW YEAR

Core Engineering	Core Engineering
Microeconomics	Econometrics
Macroeconomics	Economics Elective
PL300	SS307
IT305	HI302

FIRSTIE YEAR

Core Engineering	National Security Economics
Integrative Elective	Economics Elective
Economics Elective	Economics Elective
Economics Elective	CSC #3
MX400	LW403

WHAT IF I WANT TO GO TO GRADUATE SCHOOL?

WILL MY ECONOMICS DEGREE BE HELPFUL?

FORMER ECONOMICS MAJORS WHO ARE INSTRUCTORS IN SOSH:

Name

MAJ Jon Bate
MAJ Evan Davies
CPT Aaron Feudo
CPT Oliver Moore
CPT John Rohn
CPT Jacob Sheehan
MAJ Ben Summers
LTC Carl Wojtaszek

Graduate School

Harvard University (MPP)
Harvard University (MBA)
University of Texas (MPA)
Harvard University (MBA)
Harvard University (MPP)
Stanford University (MBA)
Harvard University (MBA)
Univ. of Notre Dame (Ph. D.)

WELL, WHAT DO YOU THINK...?

Sample 8 TAP for an AP Major

4th Class Year		3rd Class Year	
Fall Term	Spring Term	Fall Term	Spring Term
<i>E</i> MA103 4.5	<i>E</i> MA104 4.5	MA206 3.0	PY201 3.0
<i>R</i> CH101 4.0	<i>R</i> PH205 4.0	Science 4.0	SS307 3.0
EN101 3.0	EN102 3.0	SS201 3.0	EV203 3.0
IT105 3.0	PL100 3.0	SS202 3.0	SS360 3.0
HI105 3.0	HI108 3.0	<i>E</i> DFL1 4.0	<i>E</i> DFL2 4.0
2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term
PL300 3.0	SSXXX 3.0	MX400 3.0	LW403 3.0
HI302 3.0	IT305 3.0	SS376 3.0	SS480 3.0
CES1 3.0	CES2 3.0	CES3 3.0	SSXXX 3.0
CSC 3.0	CSC 3.0	CSC 3.0	SSXXX 3.0
SS386 3.0	SS366 3.0	SSXXX 3.0	SSXXX 3.0

American Politics Counselor

CPT(P) Kaine Meshkin

LH103, 938-2811 kaine.meshkin@usma.edu

Cadet POC's

Tim McLaughlin, Class of 2017

timothy.mclaughlin@usma.edu

Samuel Lampman, Class of 2017

Samuel.Lampman@usma.edu

Your Course of Study

The AP Major consists of: 5 "Toolbox" Courses, 4 AP courses, 1 Comparative Politics or International Relations course, and 3 Complementary Support Courses.

Toolbox Courses

SS360 Political Analysis: An introduction to the methods and techniques of research in contemporary political science.

SS366 Comparative Politics: Analyzes the sources of stability or instability in political regimes and examines the conditions that promote either democracy or dictatorship.

SS376 American Political Development: explores patterns in the public policy process and examines historical processes to analyze American political institutions and policy outcomes.

SS386 Political Thought: A comparative political philosophy course examining the philosophical foundations of Western liberal democracy and political Islam, and associated policy implications.

SS480 Public Policymaking: The AP capstone course, integrating and synthesizing prior study and culminating in a final project focused on a current public policy issue.

Choose Four AP Courses

SS370 MASS MEDIA & AMERICAN POLITICS
 SS373 THE AMERICAN PRESIDENCY
 SS379 LEGISLATIVE POLITICS
 SS392 THE POLITICS OF RACE, GENDER, AND SEXUALITY
 SS464 HOMELAND SECURITY
 SS465 TERRORISM: NEW CHALLENGES
 SS466 ADVANCED TERRORISM STUDIES
 SS468 POLITICAL PARTICIPATION
 SS472 THE AMERICAN STATE & THE SOLDIER
 SS473 AMERICAN FOREIGN POLICY
 SS481 THE POLITICS OF DEFENSE POLICY
 SS490A COLLOQUIUM IN AMERICAN POLITICS
 SS493 SENIOR STUDIES IN AMERICAN POLITICS

Choose One IR/CP Course

Choose Three Complementary Support Courses from the Following Fields

American Studies	Methods
Criminal Justice	Policy
Development	Political Behavior
Economics	Political Theory
Finance	Security Studies
Leadership and Management	Strategy and
Law and Politics	Statecraft



"When we assumed the Soldier, we did not lay aside the Citizen; and we shall most sincerely rejoice ... when the establishment of American Liberty, upon the most firm and solid foundations, shall enable us to return to our Private Stations in ... a free, peaceful and happy Country. "

-George Washington



[Return to LoM](#)

What is American Politics?

American Politics majors understand their role in the American system of government as citizens and officers

➤ **Political Institutions:** learn about the central theories in the field regarding the major formal and informal institutions in our government, how they developed, and how they currently function.

Courses: The American Presidency; American Political Development; Legislative Politics; Campaigns & Elections; The American State & The Soldier; Mass Media & American Politics

AIADs: White House, Executive Agencies, US Congress

➤ **Public Policy:** explore the process of policy formulation—understanding the outcomes of the political process and evaluating the character and consequences of domestic and foreign policies.

Courses: American Political Development; American Foreign Policy; The Politics of Defense Policy; Politics of Race, Gender, and Sexuality

AIADs: National Alliance to End Homelessness; Department of Veterans Affairs; Department of Labor; Bureau of Alcohol, Tobacco, and Firearms; Department of Homeland Security

➤ **Strategy:** explore the formulation of defense policy and how our nation determines its interests and values-- and equally important-- the methods the government employs to protect these interests and values.

Courses: American Foreign Policy; American The Politics of Defense Policy; Homeland Security; The American State & The Soldier

AIADs: Defense Intelligence Agency, Bureau of Intelligence and Research, NYPD Joint Terrorism Task Force, Pentagon Joint Staff, National Security Staff

Why Major in American Politics?

American Politics is relevant to your career as an Army officer and beyond. Create a course of study tailored to your specific interest with the help of our extraordinary faculty

Relevant: An understanding of American Government, U.S. public policy and the political decision making process is key to your success as an Army officer in the years to come. In our major, you will understand how the world works by studying history, law, economics, media, politics, civil society, foreign policy, civil-military relations, and more.



Cadets enjoy a Super Tuesday Watch Party

Engaging: The AP curriculum is intellectually rigorous and poses problems to which there are no certain solutions. It will test the limits of your ability to think critically as well as creatively.

Well Resourced: Studying American Politics provides you the opportunity to interact with a number of expert guest speakers, travel on exciting trip sections, and the chance to compete for AIADs across the U.S. and the world.

Faculty: The AP faculty is dedicated to your development and helping you achieve the best possible academic experience in the major. Current professors have earned graduate degrees from the best schools in the country. All permanent and many rotating faculty have completed PhDs and are active in research as well as teaching.



SS370: Mass Media and Politics Cadets meet with Hillary Clinton during the 2016 New Hampshire Primary

What can I do with an AP Major?

In the Army, an AP major will provide you the strategic, political, cultural, and policy-making knowledge that Army leaders at all levels from Platoon Leader to Theater Commander need to succeed on the contemporary battlefield.

Graduates are well prepared to serve in interesting assignments including Special Forces, Strategic Intelligence, PSYOPS/Civil Affairs, Foreign Area Officer, Strategic Planner, Embassy Attaché, Congressional Liaison, White House Fellow, and more.

AP prepares you to gain acceptance to various top graduate school programs (MPP/MPA, Ph.D., Law, or MBA). It also serves as effective preparation for federal or state government jobs, running for office, working for think-tanks or lobbyist groups, and a myriad of corporate positions in the private sector.

What will my schedule be?

Most schedules front-load the required toolbox classes. During your third class year, you will typically take Introduction to International Relations and Political Science Research Methods.

Example IR Schedule

Third Class Year

Fall	Spring
SS201	Introduction to IR
SS202	Pol Sci Research Methods
PH205	PY201
PE2XX	PE3XX
MA206	MS200
LX023	LX204
EV203	IT305

Second Class Year

Fall	Spring
Advanced IR Theory	Comparative Politics
Pol Sci Elective	Pol Thought & Ideas
Elective (CSC)	Pol Sci Elective
HI302	AP Elective
3 rd Language	PL300
MS300	PE3XX
	Engineering Sequence

First Class Year

Fall	Spring
Pol Sci Elective	Nat'l Security Seminar
CP Elective	Elective (CSC)
LW403	PE4XX
Engineering Sequence	Engineering Sequence
Additional Class	Additional Class

How do I learn more?

Contact Major Brandon Colas x3866, Lincoln Hall 105

Email: brandon.colas@usma.edu

Your SS201, SS202, & SS307 instructors can also answer your questions!

<http://www.usma.edu/sosh/SitePages/Home.aspx>

Frequently Asked Questions

Can I study abroad as part of my IR or CP major?

Yes.—we encourage it, although it's not required.

Can I double-major in IR and [x]?

Possibly—typically, double majors study IR or CP and a foreign language, although there are other possibilities.

Can I double-major in IR and [x] AND study abroad?

Maybe—but it will be difficult due to other academic requirements. You'll need to work closely with the IA Program's Academic Counselor.

What sort of AIADs does SOSH offer?

SOSH offers a plethora of domestic and international AIADs, for which SOSH majors have priority. In recent years, cadets have visited Cambodia, Liberia, Israel, among other countries, and have worked at NATO HQ, U.S. embassies, the Defense Intelligence Agency, and the FBI, among other government opportunities. Visit <http://www.usma.edu/sosh/SitePages/SOSH%20AIAD.aspx> for more information.

Why are you calling it the International Affairs Program and not just International Relations and Comparative Politics?

From an academic perspective, there is much in common between International Relations and Comparative Politics. Faculty from the SOSH Department teach courses in both majors and both majors are the responsibility of one stem head. Emphasizing the International Affairs Program instead of emphasizing the individual majors makes sense.

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International Relations and Comparative Politics



The International Affairs Program
Developing Thinking Leaders



DEPARTMENT OF SOCIAL SCIENCES
UNITED STATES MILITARY ACADEMY

Comparative Politics (CP)

Examines why countries do what they do by analyzing factors inside the state, including the stability and democratization of individual political regimes, and how other states and societies define and provide for security. Comparative Politics is very concerned with the unique variables that differentiate states, nations, and cultures from one another.

International Relations (IR)

Examines the foreign relations of states, characteristics of the international system, and explanations for international conflict and cooperation. Central phenomena of interest in IR include power, strategy, armed conflict, trade, and economic development.

What Roles does International Affairs have in the Army?

International Relations & Comparative Politics provide strong academic foundations for officers. Both majors train cadets to approach situations from multiple perspectives, preparing future Army officers for roles that require analysis and decision-making at the operational and strategic levels.

- SS491, Senior Studies: Beginning in the spring semester of 2017, you will be able to get academic credit for working on real-world projects for organizations such as STRATCOM with a select team of cadets and faculty.
- Faculty Advising Program: All IR and CP majors receive a faculty advisor based on their interests and preferences. The faculty advisor helps cadets in choosing courses, AIADs, and developing their research interests.
- Thesis Option: We've changed the IR and CP thesis program to integrate it with the National Security Seminar or International Security Seminar and assist cadets in developing scholarly products worthy of publication.
- SS479, International Organizations (offered in the spring): Study the UN, NATO, Brexit, the TPP, and...*Whale Wars*. This class introduces the organizations and institutions that are crucial to the functioning of the modern international system—and how they will affect you.

What courses do I take?

Both the IR and CP major have five 'toolbox' courses, and both require five additional SOSH electives, and three electives outside of the SOSH department.

TOOLBOX COURSES FOR IR:

SS360 Political Analysis

An introduction to research methods and techniques in political science. This course covers many aspects of research design and developing critical thinking skills.

SS366 Comparative Politics

Analyzes the sources of stability or instability in political regimes. This course also examines the conditions that promote either democracy or dictatorship.

SS378 Advanced International Relations Theory

Provides cadets with a deeper understanding of the field of international relations.

SS386 Political Thought and Ideas

An introduction to the works of major political thinkers, examining the principal questions of political thought.

SS483 National Security Seminar

This capstone seminar enables students to critically analyze the national security choices of the United States and to think strategically about US national security.

TOOLBOX COURSES FOR CP:

SS360 Political Analysis

SS366 Comparative Politics

SS381 Cultural and Political Anthropology*

This course seeks to understand man in his social setting and the influence of culture on behavior and social organization.

SS475 Democratization*

This course explores the concepts of democracy and democratization, and debates effective policy choices for newly emergent democracies.

SS386 Political Thought and Ideas

SS486 International Security Seminar

This capstone seminar examines the special historical, domestic, and external security issues that non-Western states face, and then examines how such issues influence these states' formulation of their national security policies.

*Either SS381 or SS475 can count as a CP toolbox course.

What are some of the Political Science electives?

SS372 Politics and Gov't of China
 SS377 Politics and Gov't of Europe
 SS383 Politics and Gov't of the Middle East
 SS381 Cultural/Political Anthropology
 SS385 Comparative Economic Systems
 SS457 Grand Strategy Seminar
 SS464 Homeland Security
 SS465 Terrorism
 SS473 American Foreign Policy
 SS475 Democratization
 SS476 Conflict & Negotiation
 SS481 The Politics of Defense Policy
 SS487 International Political Economy
 XH467 Winning the Peace
 ... and more!

What non-SOSH electives can I take?

DS460 Counterinsurgency Operations
 DS470 Military Strategy
 EP363 Political Philosophy
 EP365 Ethics of Military Profession
 EV372 Geography of Asia
 EV487 Environmental Security
 HI372 History of US Foreign Relations
 HI385 War & Its Theorists
 HI391 World Religions
 IT460 Cyber Operations
 LW481 International Law
 LW482 National Security Law
 MG421 Strategic Management
 PL471 Leadership in Combat
 SS364 Game Theory
 ... and more!

These examples are only
a few of the available electives.

It's **your** major—make the most of it!



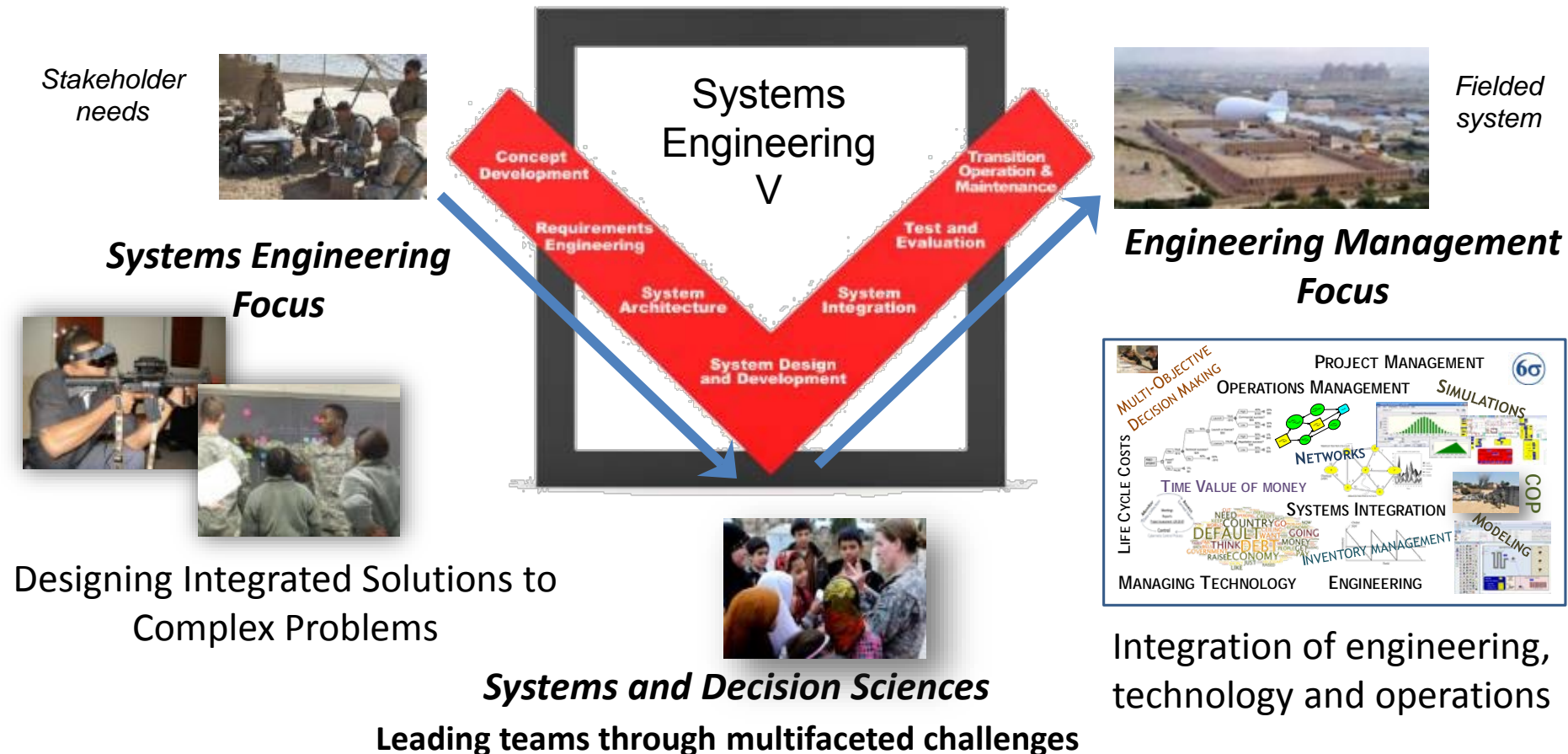
UNITED STATES MILITARY ACADEMY
WEST POINT.

Systems Engineering (SE)

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Systems 101

When **equipment, people, and operations** come together, this **system** has a mission (**system function**) and characteristics (**system properties**) that **cannot be seen just by looking at the components**. Systems thinking is grounded in identifying, analyzing, and enhancing these system properties to better achieve the objectives of **multiple stakeholders**.



In short, solving complex, interdisciplinary problems methodically and holistically



SYSTEMS

Job Title	Salary
Systems Engineering	\$112,000
Computer Engineer	\$65,000
Manager	\$51,000
Financial Analyst	\$71,000
Industrial Engineering	\$87,000

In USD as of Aug 23, 2016

40k 80k 120k

National Salary Trend from Indeed.com

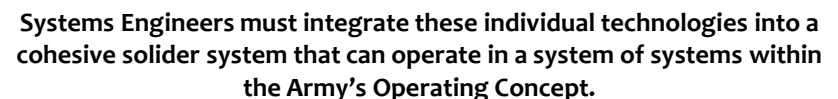
Legend:

- Systems Engineering
- Computer Engineer
- Manager
- Financial Analyst
- Industrial Engineering

Salary Index

Jul '12 Oct '12 Jan '13 Apr '13 Jul '13 Oct '13 Jan '14 Apr '14

one search. all jobs.



Systems Engineering

AIAD

In 2016, 61 sponsors provided 88 CONUS and 5 OCONUS opportunities in DoD and private organizations. Cadets spend 3 weeks applying the Systems Decision Process and other SE fundamentals to real world, undefined, problems and return to USMA more adaptable, agile, and inspired to continue their academic development in the major.

Elective Track: a 5 course sequence of courses allowing students to choose an engineering discipline outside the major.

- ♦ **Simulation Modeling:** represents a system in a computer environment to gain insight.
- ♦ **Optimization Modeling:** searches for the best possible solution given a set of specified constraints.
- ♦ **Stochastic Modeling:** handles the uncertainty of information in order to inform the system outcome risks.
- ♦ **Project Management:** a structured process to plan, organize, lead, control resources, and execute tasks to achieve specified goals.
- ♦ **Decision Modeling:** decision models that are a composite perspective of several stakeholders with multiple, competing objectives for complex, high stake decisions with uncertain information.
- ♦ **System Design:** design and engineer a solution to complex problems from concept development, detailed design, to system validation and implementation.

The major culminates with an integrative **Capstone** experience working for a real-world client developing a system solution to a complex problem.

The Systems Engineering Program (A Sample SE 8TAP)

Yearling Year		Cow Year		Firstie Year	
Fall	Spring	Fall	Spring	Fall	Spring
MA205 Math Calculus 2	SE370 Computer Aided Systems Engineering	SE301 Introduction to Systems Engineering	SE302 Fundamentals of Systems Engineering	SE402 Capstone Design I	SE403 Capstone Design II
PH202 Physics 2		SE375 Engineering Statistics	SE385 Decision Analysis	Simulation Elective (SE485/EM481/SM484)	SE400 Professional Engineer Seminar
		SE387 Deterministic Models	SE388 Stochastic Models	Systems Engineering Elective 3	Systems Engineering Elective 4
		EM411 Project Management	Systems Engineering Elective 2	Systems Engineering Elective 5 (EE301/IT305)	
		Systems Engineering Elective 1			

Systems Engineering Elective Tracks

Cyber Security Systems	Aeronautical Systems
Digital Communication Systems	General Engineering
Electrical Robotic Systems	Geographic Information
Electrical System	Web Application System
Environmental Systems	Artificial Intelligence
Infrastructure Systems	Human Factor Systems
Mechanical Robotic Systems	Software Systems
Nuclear Systems	*Custom Student Design
Power Energy Systems	

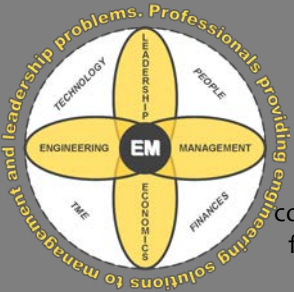
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Mahan Hall, 4th Floor
Building 752, Thayer Road
West Point, New York 10996

The Systems Engineering program is accredited by the Engineering Accreditation Commission of ABET. <http://www.abet.org>

<http://www.usma.edu/se>
E-mail: dennis.edwards@usma.edu





ENGINEERING MANAGEMENT

Merging engineering, technology, and business into solutions for a complex world

Engineering Management examines the engineering relationships between the management tasks of staffing, organizing, planning, and financing the human element involved in production, research, and service. EM teaches the concepts and principles of engineering to manage the fundamentals of organizational leadership, personnel management, fiscal management, and systems understanding. EM is a highly relevant program which builds on the traditional roles of systems analysis and basic and applied sciences by emphasizing management functions in a technical setting.



"Engineering Management coupled with playing Army Football provided a remarkable foundation for being a Infantry Platoon Leader in today's Army. The various tools and skills that the Systems Department equips cadets with helps mold adaptive leaders. This could not have better prepared me for the road ahead." - 2012 Graduate and Army Football Team Captain

"The Department also afforded me the flexibility to take a semester abroad in Mexico and partake in many AIADs and extracurricular activities during my time as a cadet. I have a deep appreciation for the DSE's impact on my academic and professional development." -2014 Graduate

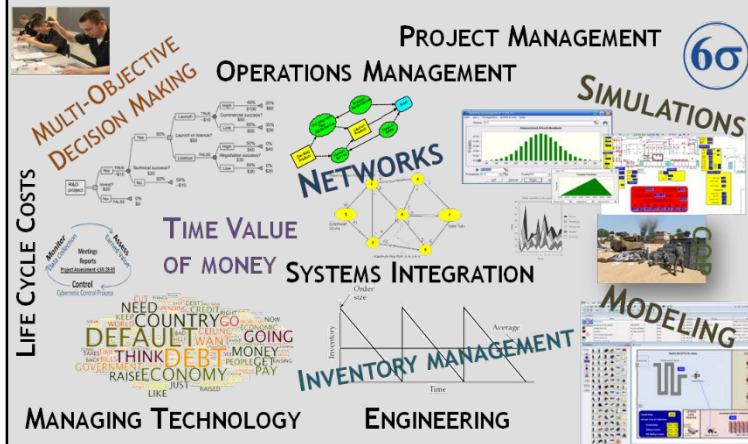
"EM provided me with a versatile skill set that I have relied upon in my military and civilian careers. What sets it apart, is its emphasis on 'thinking big picture'. The ability to make decisions based on an understanding of how multiple technologies, organizations, or social groups interact is invaluable." -2000 Graduate and National Security Research Fellow



Why major in EM?

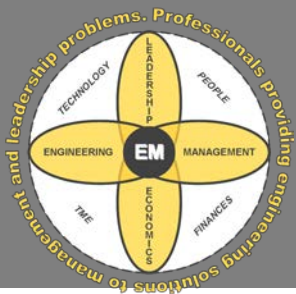
- Numerous **AIAD opportunities**
- You choose** your CSC Track
- Excellent preparatory major for serving as an Army Officer (complex problem solving, critical thinking, practical applications)
- Widely applicable for careers in engineering, the business world, and in Government
- EM majors **LEAD** interdisciplinary teams of engineers
- Studying EM will prepare you for a graduate degree in Engineering or an MBA
- Excellent foundation for becoming a Professional Engineer and/or Project Management Professional
- Opportunity to complete an Honors Degree

Integrating engineering, technology, and business operations



What will I study in the EM Program?

- Systems thinking
- Basics of sound financial decisions and business operations
- Tools for analyzing and making engineering decisions
- Design and analysis of production operations
- Supply chain design, planning, operation, business processes, and information management systems
- How to plan, monitor, and control a project
- A 3 course engineering sequence of your own choosing
- Electives in subject areas that interest you
- How to solve realistic and relevant problems



ENGINEERING MANAGEMENT

Merging engineering, technology, and business into solutions for a complex world

The United States' Top Rated Engineering Management Program **from 2005-2012 and 2014**

The Engineering Management Program is accredited by the Engineering Accreditation Commission of ABET,
<http://www.abet.org>



Required Courses

- Engineering Economics (EM381)
- Analytical Methods for Eng. Mgmt. (EM384)
- Project Management (EM411)
- Production Operations Mgmt. (EM420)
- Supply Chain Eng. and Info. Mgmt. (EM482)
- Fund. of Eng. Design and Sys. Mgmt. (SE301)
- Statistics for Engineers (SE375)
- Professional Engineering Seminar (EM400)
- Engineering Management Design I (EM402)
- Engineering Management Design II (EM403)
- Math/Science Depth Elective\

Departmental Electives

- Fundamentals of Sys. Eng. (SE302)
- Computer Aided Sys. Eng. (SE370)
- Decision Analysis (SE385)
- Systems Simulation (EM481)
- Combat Modeling (SE485)
- System Dynamics Simulation (SM484)

Complementary Support Course (CSC) Tracks (3 Course Sequence)

- Project Management in Civil Engineering
- Electrical Engineering
- Nuclear Engineering
- Infrastructure Engineering
- Engineering Fundamentals
- Environmental Engineering
- Software Fundamentals
- Chemical Engineering



AIAD and Capstone Project Partners

- National Security Agency
- MIT Lincoln Labs
- Northrup Grumman
- PM Unmanned Aerial Systems
- PM Soldier Warrior
- 1st Special Warfare Training Group
- General Electric
- Verizon Communications
- General Atomics Aeronautical Systems Inc.
- Raytheon Missile Systems
- Soldier For Life, DCS- G1, HQDA and many more!



US Army Corps of Engineers

Engineering Management Department Academic Counselors



LTC John Richards
MH301
x8589



CPT Matthew Beigh
MH303
x5536

Department of Systems Engineering
 3rd and 4th Floors of Mahan Hall
 Building 752, Thayer Road
 West Point, New York 10996
<http://www.usma.edu/se>

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SYSTEMS AND DECISION SCIENCES (SDS)

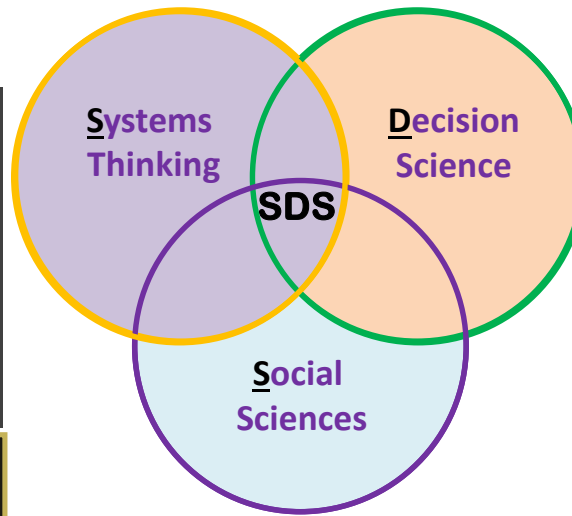
Interested in pursuing an academic field that looks at the world from a global perspective and enables you to study topics such as global sustainability, and business/engineering problems? Consider majoring in SDS, where you can quantitatively and qualitatively study the world's dilemma's from varying perspectives.

Decision Making for Leaders in a Complex and Dynamic World



SYSTEMS AND DECISION SCIENCES (SDS)

The Systems and Decision Sciences (SDS) major centers on the design, management, and decision analysis of tangible and abstract systems in accordance with performance requirements, budget, and schedules. The program combines elements of traditional engineering, systems engineering, finance, decision analysis, and organizational management into a single major. Cadets will learn the methods, processes, and tools needed to understand and conduct meaningful decision analysis in support of complex systems. This major will produce graduates with technical management skills and engineering depth to prepare them for future academic and professional opportunities in a world increasingly dominated by technological change.



SDS graduates build interdisciplinary skills rooted in **engineering, management, and social science.**

This major will prepare SDS graduates for the following types of graduate programs:

- ❖ MBA
- ❖ Engineering & Management
- ❖ Industrial and Systems Engineering
- ❖ Business / Data Analytics



"As a Cadet, I was attracted to Systems and Industrial Engineering because of the superb faculty and students. After graduating, I am proud of my exposure to Systems thinking, because of how complex the 'real' world is. The tools, techniques, and mentorship I gained while studying Systems at West Point furnished me with a proven problem solving methodology that makes even the most difficult situations surmountable." CPT Tommy Ryan, 1-27IN, 2SBCT, 25ID (PL, XO), 2-12IN, 4IBCT, 4ID (AS3, D Co CDR, HHC CDR), Class of 2006

Systems Advanced Individual Academic Development (AIAD): 45 unique sponsors with 88 CONUS and 5 OCONUS opportunities in DoD and private organization.

Past sponsors include:

- MIT Lincoln Laboratory
- National Security Agency (NSA)
- US Army Cyber Command
- 1st Special Warfare Training Group
- Northrop Grumman, Raytheon, Verizon, GE
- PM Unmanned Aerial Systems
- Natick Soldier Research Development



We are the **Army's Systems Engineering Department** educating cadets and developing faculty to lead teams that develop and implement high value solutions to challenging problems in a dynamic, uncertain, and technologically complex world.

SDS graduates are able to:

- ❖ Analyze global supply and demand of goods and its sustainability
- ❖ Understand the migration of refugees due to climate change
- ❖ Apply system dynamics to complex operational environments
- ❖ Understand the dynamic complexity involved with sustainable management of organizations
- ❖ Conduct data analytics and geospatial analysis of the battlefield to help decision makers



<http://www.usma.edu/se>

3rd Class Year		2nd Class Year		1st Class Year	
Fall Term	Spring Term	Fall Term	Spring Term	Fall Term	Spring Term
MA206 3.0	PY201 3.0	PL300 3.0	SS307 3.0	SE402 3.5	SE403 3.5
Sci Depth/ EV203 3.0	EV203/Sci Depth 3.0	SE375 or MATH ELECTIVE 3.0	TRACK ELECT 1 3.0	TRACK ELECT 2 3.0	TRACK ELECT 3 3.0
SS202 3.0	SS201 3.0	SE301 3.0	SE385 3.0	HI302 3.0	LW403 3.5
EM384 3.0	SE370 3.0	IT305 3.0	CSC ELECT 1 3.0	CSC ELECT 2 3.0	CSC ELECT 3 3.0
E DFL1 4.0	E DFL2 4.0	EM381 3.0	EM411 3.0	D SM484 3.5	D MX400 3.0

Flexible Electives to suit your Interests

Choose 1 of 9 Elective Tracks

Management Science
Project Management
Defense Systems
Personnel Management
Mathematical Modeling
International Affairs
Financial Systems
Cyber Security
Logistics Management

Science Depth (Choose 1)

Physics II, Chemistry II or Biology I

Mathematics Depth (Choose 1)

Engineering Statistics or Math Elective

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Class of 2020
Department Academic Counselor
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Assistant Department Academic Counselor
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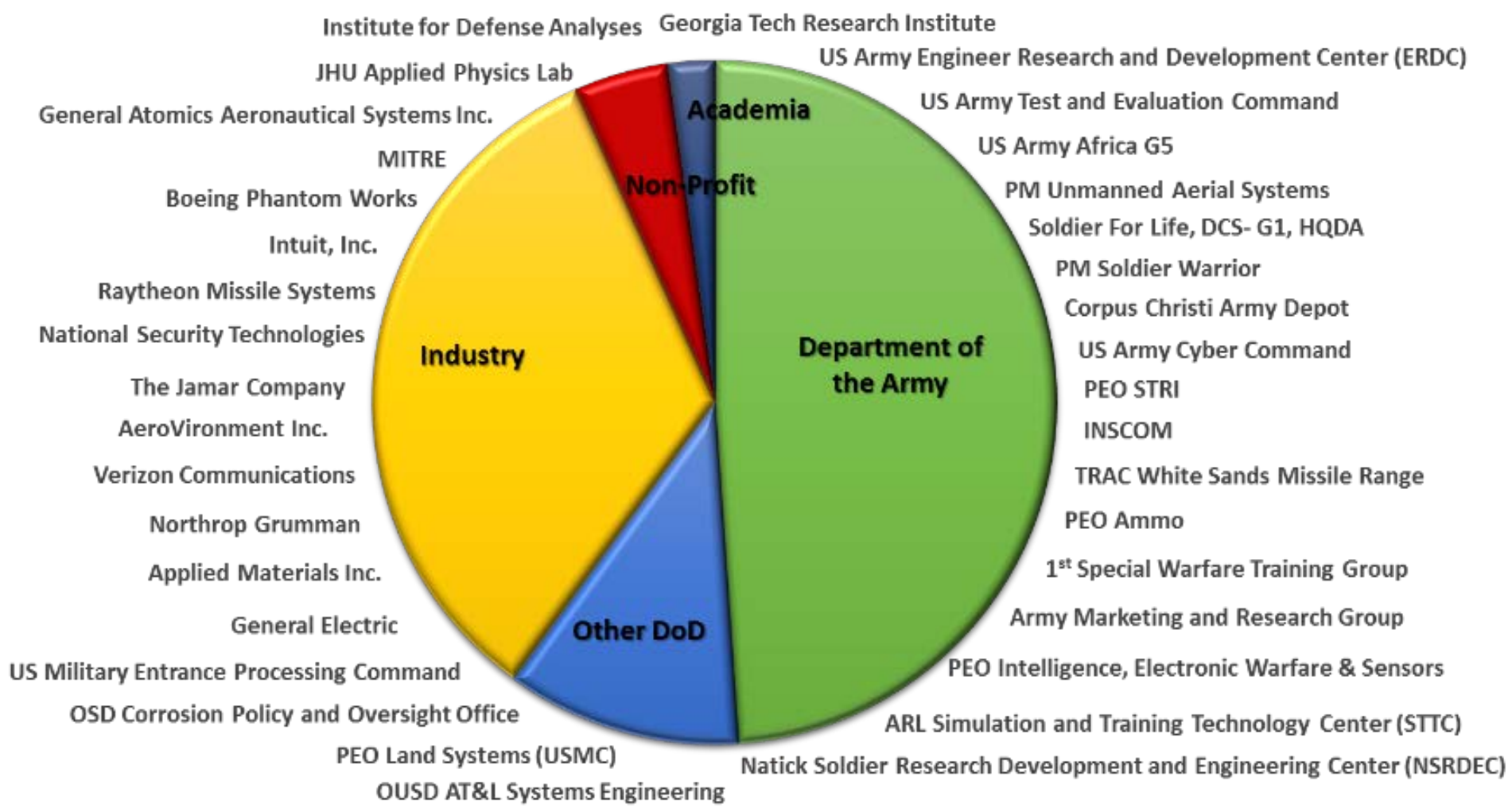
Systems and Decision Sciences Team



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Building 752, Thayer Road
West Point, New York 10996

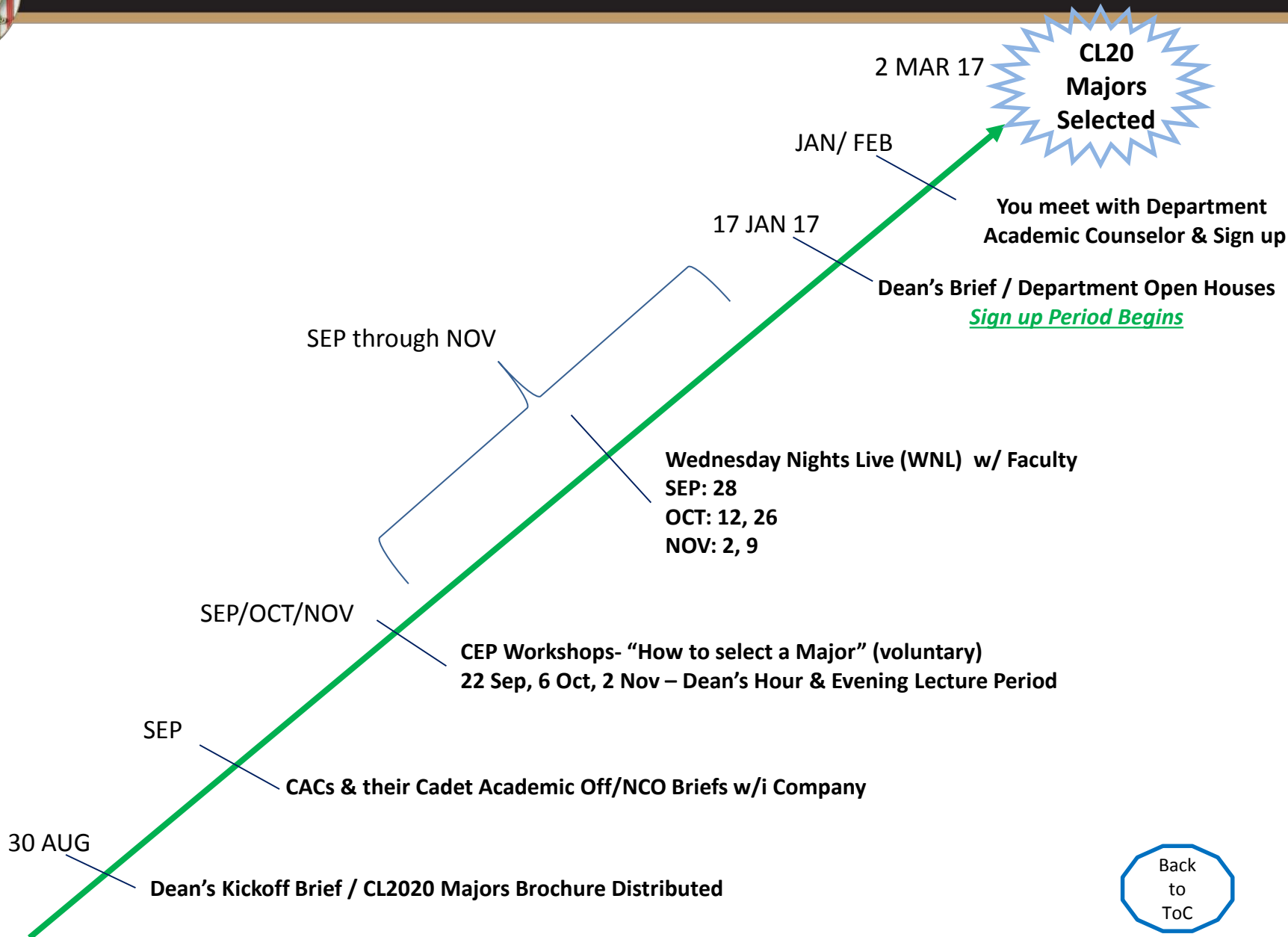
45 unique sponsors with **16 new** sponsors providing **88 CONUS and 5 OCONUS opportunities** in DoD and private organizations. Cadets spend 3 weeks applying the Systems Decision Process and other SE fundamentals to **real world, undefined, problems** and return to USMA more **adaptable, agile, and inspired** to continue their academic development in the major.

DSE AIAD Program
Large, Diverse, Relevant



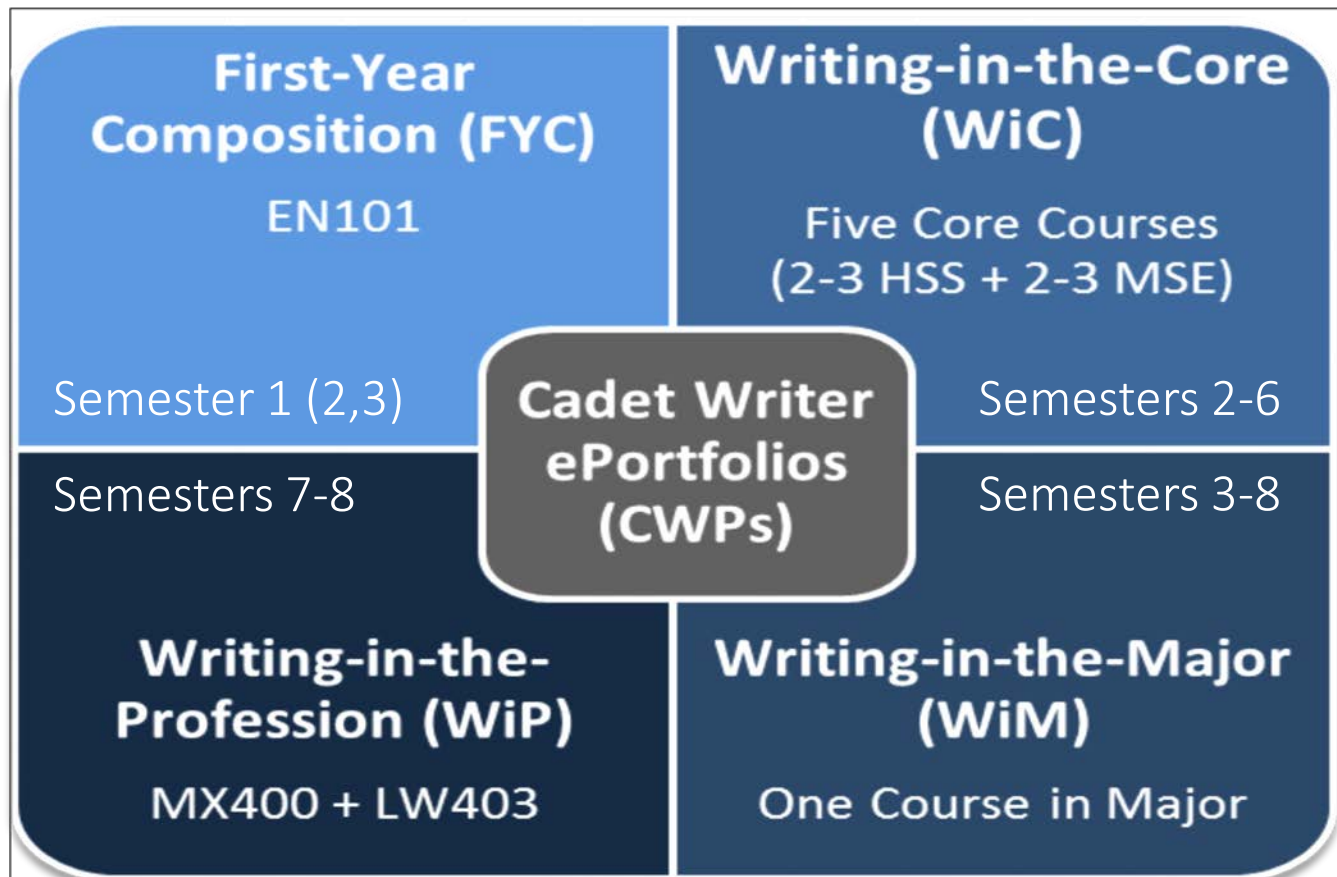


The Way Ahead





The West Point Writing Program



Signature Writing Events (SWEs) in Every WPWP Course

The Mounger Writing Center

AT A GLANCE (AY16)

- 576 sessions conducted with 335 different Cadets
- 35% of all clients came in more than once
- 97% of all clients said they'd recommend the Writing Center to others

- Learn to express yourself more clearly, forcefully, and effectively in **one-on-one sessions** led by Cadet Writing Fellows
- Talk about writing assignments for **any academic course**, including electives and courses in your major
- Work on essays, policy or response papers, lab and technical reports, abstracts, executive summaries, design projects, PowerPoints, even oral presentations
- Address **any stage of the writing process**, from brainstorming and drafting to organizing, revising, editing, and polishing

The sooner you come in, the more we can help!

JEFFERSON HALL, SECOND FLOOR (NE CORNER)

E/F/K/L (Mon-Fri, 1400-1600) & ESP (Sun-Thurs, 2000-2200)

Appointments preferred; walk-ins welcome.

usma.mywconline.com

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ToC